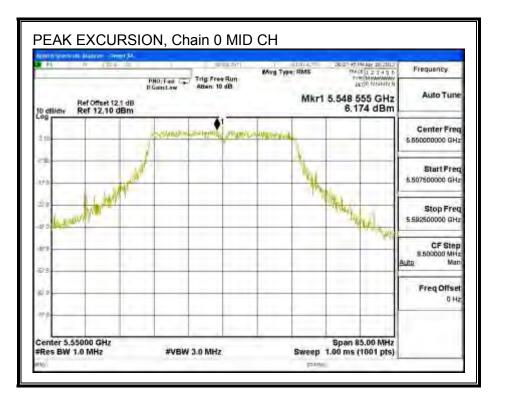
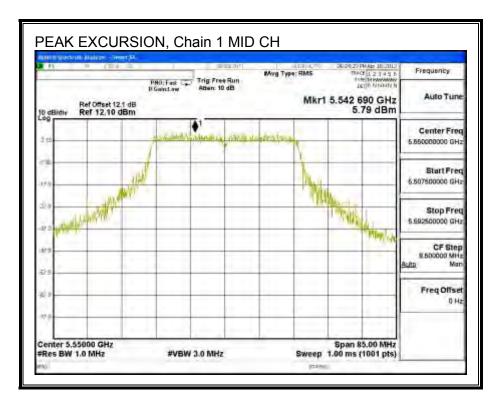
PEAK EXCURSION, Chain 0



PEAK EXCURSION, Chain 1



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9.6.5. CONDUCTED WEATHER RADAR BAND EMISSIONS

LIMITS

Within 5600 – 5650 MHz band, -20 dBc relative to highest fundamental output power density per 100 kHz.

TEST PROCEDURE

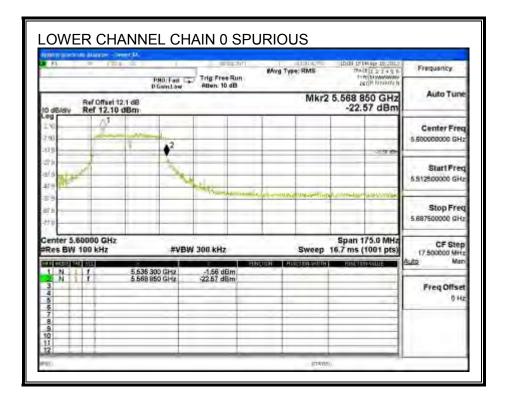
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

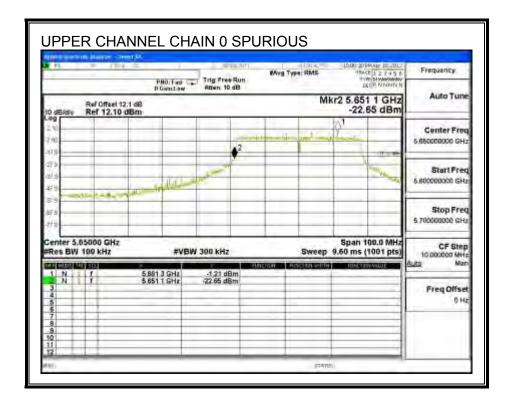
The authorized channel nearest to and less than 5600 MHz is measured.

The authorized channel nearest to and greater than 5650 MHz is measured.

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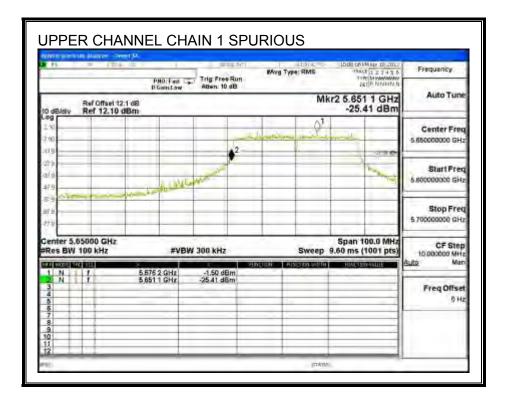
SPURIOUS EMISSIONS IN WEATHER RADAR BAND 5600 - 5650 MHz





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HOLEast Carl Trig Free	Bun Ming 1	Type: RMS	10-10-2174 Apr 10-2013 MATE 11-2-1-4-3-5 TUE 10-00000000	Frequency
Gaint aw Atten 10	dB	Mkr	2 5.569 200 GHz	Auto Tune
2				Center Freq 5.50000000 GHz
-				Start Free 5.512500000 GH
		- Providence		Stop Free 5.887500000 GH
#VBW 300 kHz		Sweep	Span 175.0 MHz 16.7 ms (1001 pts)	CF Step 17 500000 MH
0 GHz -0.98 df	m	HING BOARDIN		Auto Mar
50,000 M		_		Freq Offse 0 H
	HOLTEN THE Pres	HU: Feet Control of B	HU: Fail Trig Free Run Aben: 10 dB Mkr2 400 kHz #VBW 300 kHz Sweep	HU: Fast Trig Free Run Atten: 10 dB Mkr2 5.569 200 GHz -23.96 dBm *VBW 300 kHz Sweep 16.7 ms (1001 pts) 0 GHz 0.99 dBm



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10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 1 MHz for peak measurements and as applicable for average measurements.

The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

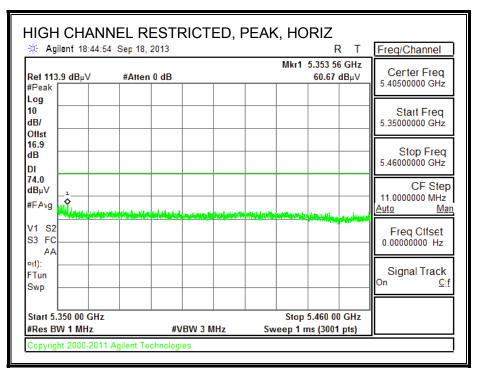
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

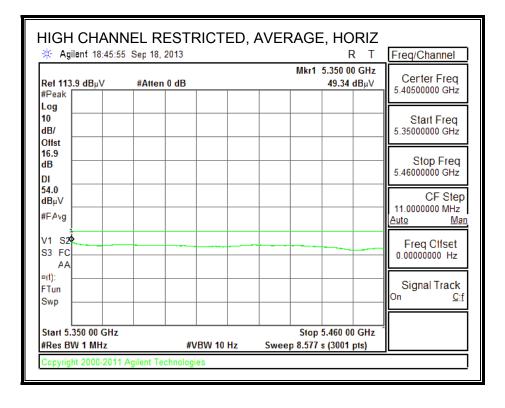
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10.2. DIPOLE ANTENNA

10.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND

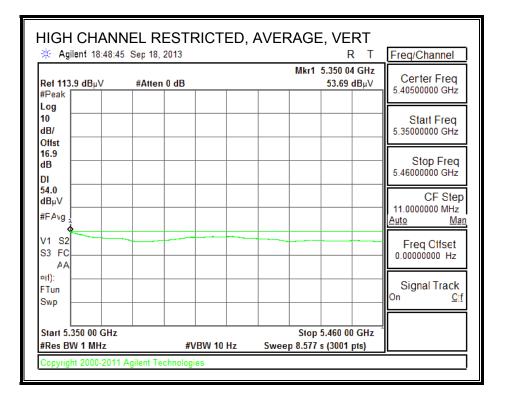
RESTRICTED BANDEDGE (HIGH CHANNEL)





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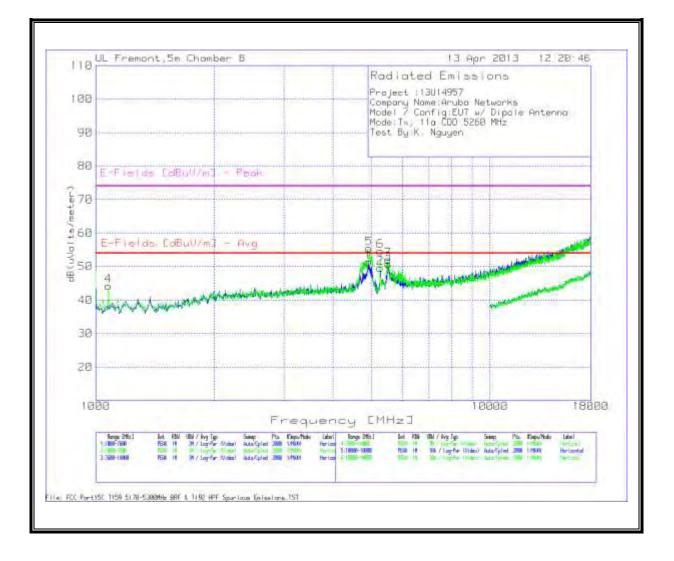
HIGH CHANNEL	-	PEAK, VERT	Freg/Channel
	en 0 dB	Mkr1 5.351 28 GHz 67.72 dBµ∨	Certer Freq 5.40500000 GHz
Log 10 dB/ Offst			Start Freq 5.3500000 GHz
16.9 dB DI			Stop Freq 5.4600000 GHz
74.0 dBμV #FAvg	Les sundissimi dinti in trisilen das ba	ten bindinen er bilt beldet gener etter ster ster ster ster	CF Step 11.0000000 MHz Auto Man
V1 S2 S3 FC AA			Freq Clfset 0.00000000 Hz
P(1): FTun Swp			Signal Track ^{On <u>C</u>if}
Start 5.350 00 GHz #Res BW 1 MHz	#VBW 3 MHz	Stop 5.460 00 GHz Sweep 1 ms (3001 pts)	
Copyright 2000-2011 Agilent	Technologies		



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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode: Tx; 11a CDD 5260 MHz Test By:K. Nguyen

Horizontal

	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1	4921.739	44.28	PK	34.6	-34.9	7.1	0.3	51.38	-	-	74	-22.62	Horz
1a	4921.739	40.72	VB1	34.6	-34.9	7.1	0.3	47.82	54	-6.18	-	-	Horz
2*	5522.039	42.57	PK	34.9	-34.9	7.6	0.7	50.87	-	-	68.2	-17.33	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
3**	1079.16	49.13	PK	27.8	-35.9	3.2	0	44.23	54	-9.77	74	-29.77	Vert
4	4934.933	48.28	PK	34.6	-34.9	7.2	0.2	55.38	-	-	74	-18.62	Vert
4a	4934.933	36.38	VB1	34.6	-34.9	7.1	0.3	43.48	54	-10.52	-	-	Vert
6*	5264.768	46.35	PK	34.9	-34.9	7.4	0.9	54.65	-	-	68.2	-13.55	Vert
5*	5508.846	43.62	PK	34.9	-34.9	7.6	0.8	52.02	-	-	68.2	-16.18	Vert

PK - Peak detector

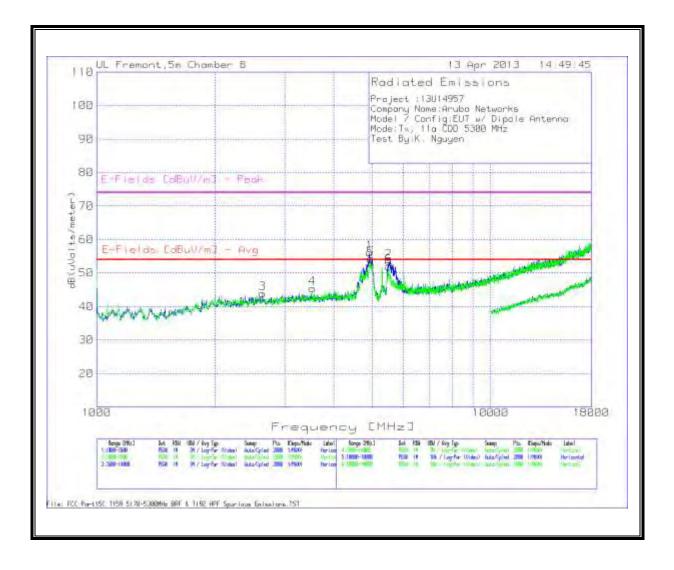
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV/ (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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Mid Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode: Tx; 11a CDD 5300 MHz

Test By:K. Nguyen

	Test Frequency	Meter Reading		T345 Ant Factor	T145 Preamp	Cable Factor	T159 BRF	Corrected Reading	E-Fields [dBuV/m] -	Avg Margin	E-Fields [dBuV/m] -	Peak Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
3*	2635.982	41.35	РК	32.7	-35.1	4.9	0.1	43.95	-	-	68.2	-24.25	Horz
1	4928.336	49.06	РК	34.6	-34.9	7.1	0.2	56.06	-	-	74	-17.94	Horz
1a	4928.336	45.44	VB1	34.6	-34.9	7.1	0.2	52.44	54	-1.56	-	-	Horz
2*	5512.144	45.21	РК	34.9	-34.9	7.6	0.8	53.61	-	-	68.2	-14.59	Horz
Vertical	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
4*	3533.133	41.35	РК	33.3	-35	5.8	0	45.45	-	-	68.2	-22.75	Vert
	3533.133 4964.618	41.35 47.01	PK PK	33.3 34.6	-35 -34.9	5.8 7.2	0	45.45 54.21	-	-	68.2 74	-22.75 -19.79	Vert Vert
4*							-					-	

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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<u>18-26GHz</u>

RE	UL EMC	1 Det 2013 20:13:4
95		RF Emissions Drder Number:13014957
		Configuration:EUT with laptop Mode:11a CDD 2TX 5380MHz Tested by / SN:K. Nguyen
85		lested by / ar.h. Hguyen
75		
65		
55	Avg Limit (dBuU/m)	
45		
40	manukh, underson man the manufallet	en and mark all and all dependences and and and and and a second and a second and a second and a second and a s
35		
25		
15		
1	8	
		Frequency (GHz)
	Ronge (6Hz) Det R8U U8U / Avg Typ 1:18-26 PE4K 1M 3M	Sweep Pts #Swex/Hd Ronge (GHz) Det RBU UBU / Avg Typ Sweep Pts #Swps/H Auto/Cpled 1282 Inf/NAX
T 309	915 23 Aug 2013	Rev 9.5 12

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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Avg Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	19.319	40.23	РК	32.4	-23.8	-9.5	39.33	54	-14.67	74	-34.67
2	25.087	43.73	PK	34	-22.9	-9.5	45.33	54	-8.67	74	-28.67
3	19.339	41	РК	32.4	-23.9	-9.5	40	54	-14	74	-34
4	23.915	43.47	РК	33.4	-22.7	-9.5	44.67	54	-9.33	74	-29.33

PK - Peak detector

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<u>26-40GHz</u>

02	LIIG			1 Oct 2013	20:40:44
140	EMC		RF Emissions Order Number:13014957		
95			Configuration:EUT with laptop Mode:11a CDD 2TX 5300 MHz	1	
85			Tested by / SN:K. Nguyen		
75 P	Peak Limit (dBuU/m)				
65					
55	vg Limit (dBu0/m)				
15					
45					a standard
35 ***	meditmeditional particular and provide the shift his	isenthereis we want the has speed	emparethetic distriction of the second second	Maddell And Allendary	
25					
15					******
26					4
-	Roman (GHo) Net PRU 1841 / Aug Tur	Frequency	(GHz) Ronge (GHz) Det RBM UBM / Avg Typ	Suerp	Pts #Sups/Mo
1:	Ronge (GHz) Det R814 UB1/ Avg Typ :26-48 PEAK IM 3M	Sweep Pts #Swps/Mc Auto/Cpled 1803 Inf/NAX	nange conzy bec now comy nig rigp	2004P	i ca asporta
38915	2 Aug 2013				Rev 9.5 12

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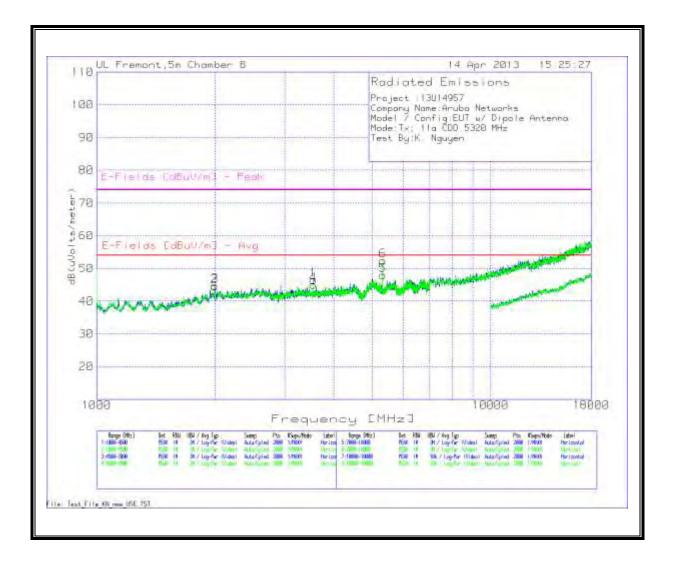
Trace Ma	arkers										
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Avg Margin (dB)	Peak Limit (dBuV/m)	
1	34.461	48.23	РК	37.4	-37.3	-9.5	38.83	54	-15.17	74	-35.17
2	39.316	49.1	РК	38.3	-36.4	-9.5	41.5	54	-12.5	74	-32.5
3	34.632	48.7	РК	37.3	-37.5	-9.5	39	54	-15	74	-35
4	38.92	50.03	РК	37	-36.7	-9.5	40.83	54	-13.17	74	-33.17

PK - Peak detector

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High Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode: Tx; 11a CDD 5320 MHz Test By:K. Nguyen

Horizontal

HUITZUIItai													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	3546.727	42.4	РК	33.3	-35	5.8	0	46.5	-	-	68.2	-21.7	Horz
2*	1993.503	43.5	РК	31.8	-35	4.2	0	44.5	-	-	68.2	-23.7	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
3*	1995.252	43.71	PK	31.8	-35	4.2	0	44.71	-	-	68.2	-23.49	Vert
4*	3546 727	40.87	PK	33.3	-35	5.8	0	44 97	-	-	68.2	-23 23	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

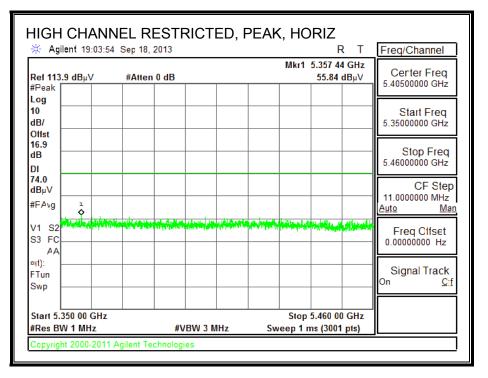
* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

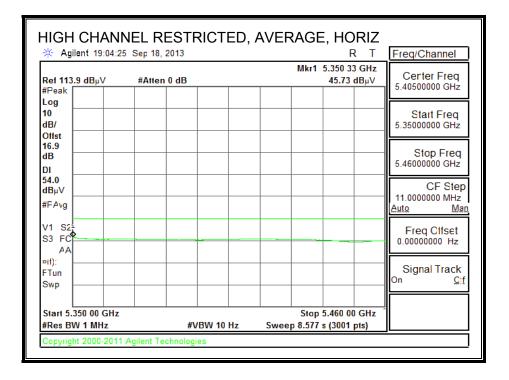
** Denotes a peak measurement that satisfies both peak and average emission limits.

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10.2.2. TX ABOVE 1 GHz 802.11n HT20 STBC 2TX MODE IN THE 5.3 GHz BAND

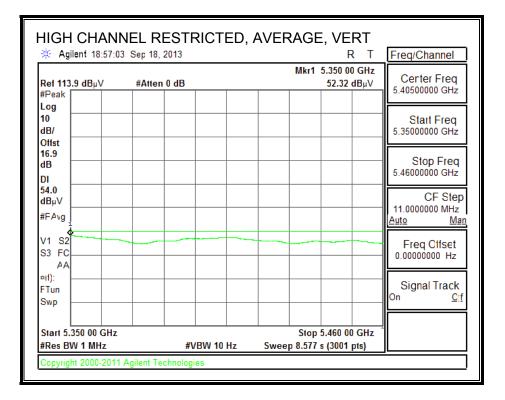
RESTRICTED BANDEDGE (HIGH CHANNEL)





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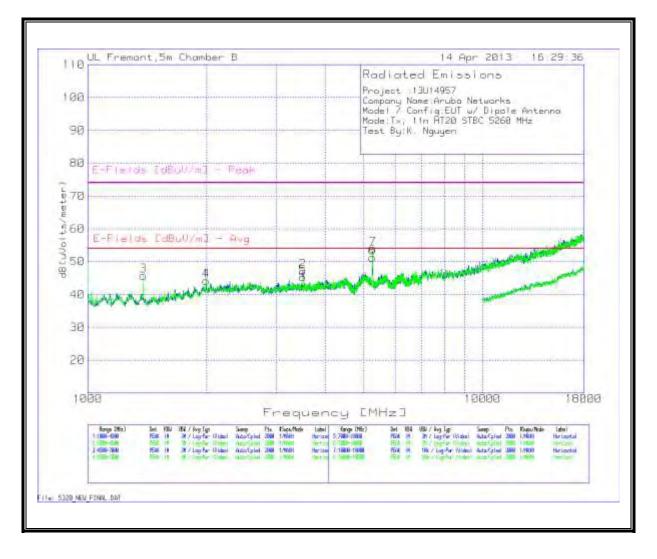
		TED, PEA	,	RТ	FreelChannel
Agilent 18:58:03 Ref 113.9 dBµV #Peak	#Atten 0 dB		Mkr1 5.355 9		Freq/Channel Certer Freq 5.40500000 GHz
Log 10 dB/					Start Freq 5.3500000 GHz
Offst 16.9 dB DI					Stop Freq 5.4600000 GHz
74.0 dBμV #FAvg	Here and Bernel, Microsol,		الأرابية المحتوات المحتول	i en	CF Step 11.0000000 MHz <u>Auto Man</u>
V1 S2 S3 FC AA					Freq Olfset 0.00000000 Hz
¤(1): FTun Swp					Signal Track ^{On <u>C</u>if}
Start 5.350 00 GHz #Res BW 1 MHz	#VBW :	3 MHz S	Stop 5.460 (Sweep 1 ms (300		
Copyright 2000-2011	Agilent Technologies				



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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode: Tx; 11n HT20 STBC 5260 MHz Test By:K. Nguyen

Horizontal

Horizontai													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1993.503	43.24	РК	31.8	-35	4.2	0	44.24	-	-	68.2	-23.96	Horz
2*	3506.497	43.12	PK	33.2	-35	5.8	0	47.12	-	-	68.2	-21.08	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
3**	1383.058	49.13	PK	28.4	-35.4	3.6	0	45.73	54	-8.27	74	-28.27	Vert
4*	1993.503	43.16	PK	31.8	-35	4.2	0	44.16	-	-	68.2	-24.04	Vert
5*	3506,497	41.3	РК	33.2	-35	5.8	0	45.3	-		68.2	-22.9	Vert

PK - Peak detector

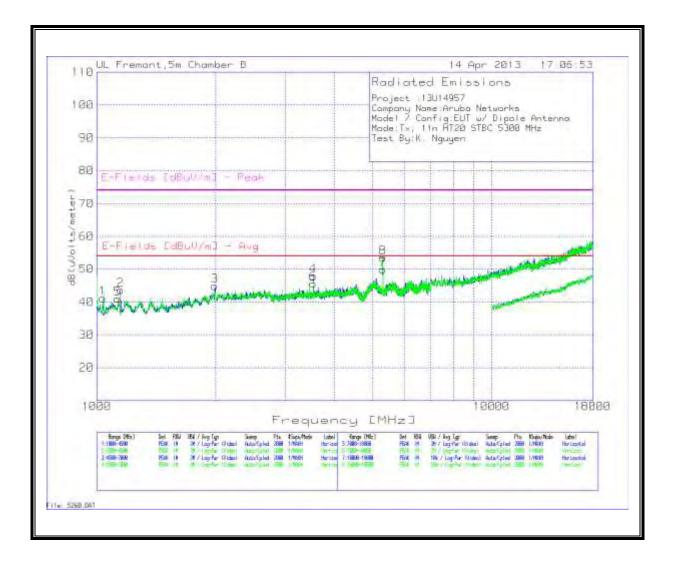
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

 $\space{1.5}$ ** Denotes a peak measurement that satisfies both peak and average emission limits.

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Mid Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode: Tx; 11n HT20 STBC 5300 MHz

Test By:K. Nguyen

Horizontal

Tionzontai	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF		[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1**	1036.732	46.2	РК	27.6	-35.9	3.2	0	41.1	54	-12.9	74	-32.9	Horz
2**	1150.425	48.01	РК	28.1	-35.8	3.3	0	43.61	54	-10.39	74	-30.39	Horz
3*	1991.754	44.03	РК	31.7	-35	4.2	0	44.93	-	-	68.2	-23.27	Horz
4*	3534.483	43.85	РК	33.3	-35	5.8	0	47.95	-	-	68.2	-20.25	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
5**	1131.184	45.52	РК	28	-35.8	3.3	0	41.02	54	-12.98	74	-32.98	Vert
6*	3534.483	41.41	РК	33.3	-35	5.8	0	45.51	-	-	68.2	-22.69	Vert

PK - Peak detector

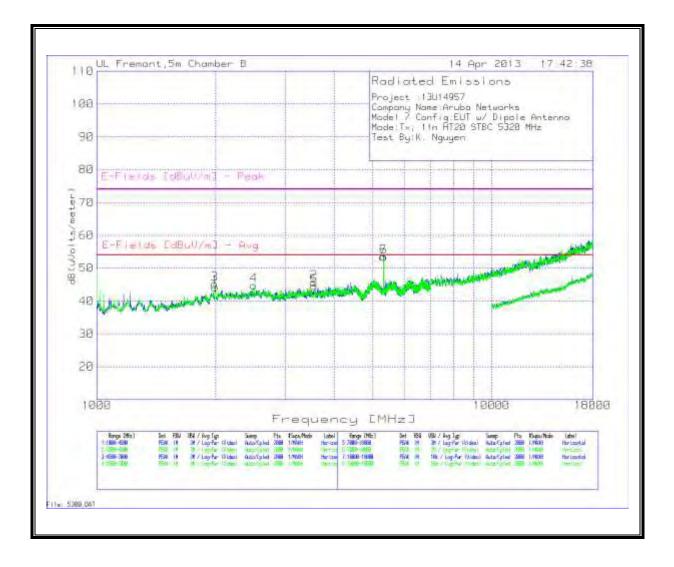
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

 $\ensuremath{^{**}}$ Denotes a peak measurement that satisfies both peak and average emission limits.

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High Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode: Tx; 11n HT20 STBC 5320 MHz Test By:K. Nguyen

Horizontal

Horizontai													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1993.503	43.2	PK	31.8	-35	4.2	0	44.2	-	-	68.2	-24	Horz
2*	3546.727	41.65	PK	33.3	-35	5.8	0	45.75	-	-	68.2	-22.45	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
3*	1991.754	44.21	РК	31.7	-35	4.2	0	45.11	-	-	68.2	-23.09	Vert
4**	2497.251	42.48	PK	32.5	-35	4.7	0.1	44.78	54	-9.22	74	-29.22	Vert
5*	3546.727	40.44	PK	33.3	-35	5.8	0	44.54	-	-	68.2	-23.66	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

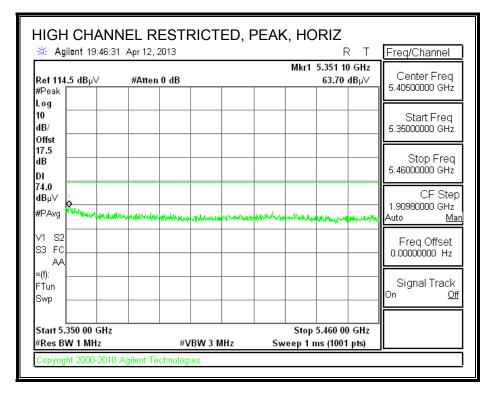
* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

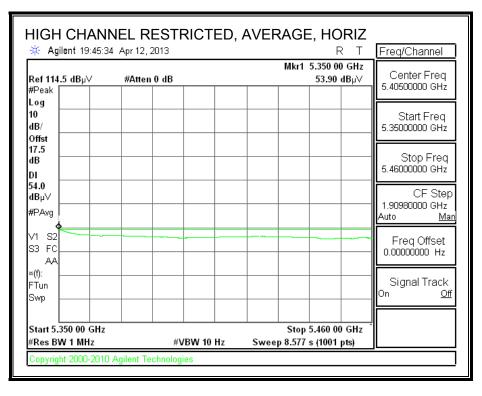
 $\ensuremath{^{**}}$ Denotes a peak measurement that satisfies both peak and average emission limits.

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10.2.3. TX ABOVE 1 GHz 802.11n HT40 STBC 2TX MODE IN THE 5.3 GHz BAND

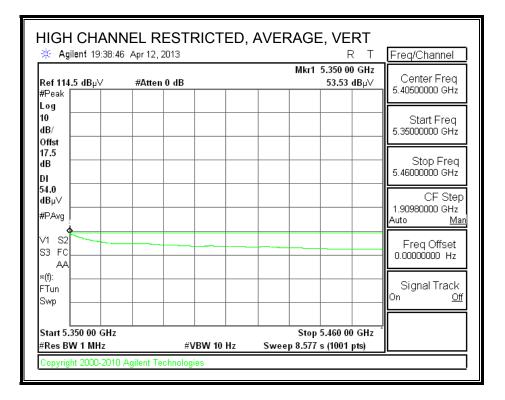
RESTRICTED BANDEDGE (HIGH CHANNEL)





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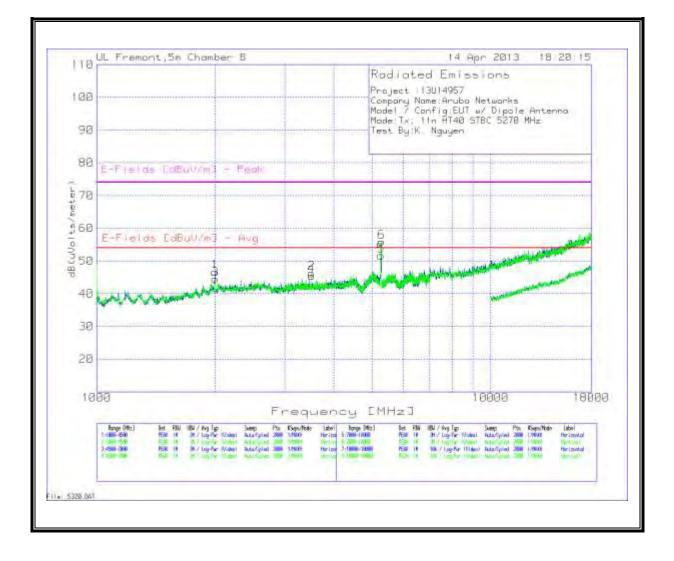
HIGH CHANNEL R		PEAK, VERT	Freq/Channel
Ref 114.5 dBµ∨ #Atter #Peak		Mkr1 5.35121 GHz 63.46 dBµ∨	Center Freq 5.40500000 GHz
Log 10 dB/ Offst			Start Freq 5.3500000 GHz
17.5 dB DI			Stop Freq 5.4600000 GHz
74.0 dBµ∨ #PAvg ₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩	califier the set of the set of a	and the state of t	CF Step 1.90980000 GHz Auto <u>Man</u>
V1 S2 S3 FC AA			Freq Offset 0.00000000 Hz
×(f): FTun Swp			Signal Track On <u>Off</u>
Start 5.350 00 GHz #Res BW 1 MHz	#VBW 3 MHz	Stop 5.460 00 GHz Sweep 1 ms (1001 pts)	
Copyright 2000-2010 Agilent Te	echnologies		_



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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode:Tx; 11n HT40 STBC 5270 MHz Test By:K. Nguyen

Horizontal

Homzontai													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1993.503	45.69	РК	31.8	-35	4.2	0	46.69	-	-	68.2	-21.51	Horz
2*	3513.493	42.32	PK	33.2	-35	5.8	0	46.32	-	-	68.2	-21.88	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
3*	1998.751	43.41	PK	31.8	-35	4.2	0	44.41	-	-	68.2	-23.79	Vert
4*	3513 493	41 37	PK	33.2	-35	5.8	0	45 37	-	-	68.2	-22.83	Vert

PK - Peak detector

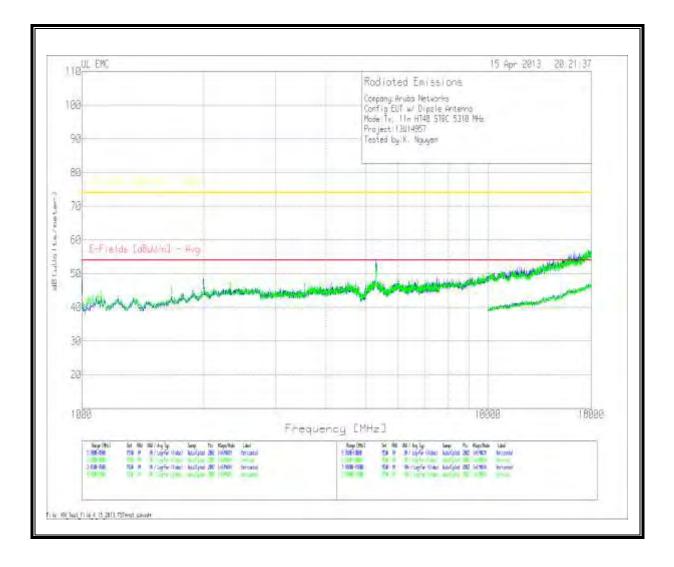
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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High Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode:Tx; 11n HT40 STBC 5310 MHz Test By:K. Nguyen

Horizontal

	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1**	1661.169	43.1	РК	29.4	-34.8	5.6	0	43.3	54	-10.7	74	-30.7	Horz
2*	1991.754	44.95	PK	31.6	-34.7	5.8	0	47.65	-	-	68.2	-20.55	Horz
3**	2325.837	41.58	РК	32.4	-34.8	6.1	0.1	45.38	54	-8.62	74	-28.62	Horz
Vertical													

	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
4**	1664.668	46.16	РК	29.4	-34.8	5.6	0	46.36	54	-7.64	74	-27.64	Vert
5*	1993.503	44.43	РК	31.7	-34.7	5.8	0	47.23	-	-	68.2	-20.97	Vert
6**	2325.837	43.87	РК	32.4	-34.8	6.1	0.1	47.67	54	-6.33	74	-26.33	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

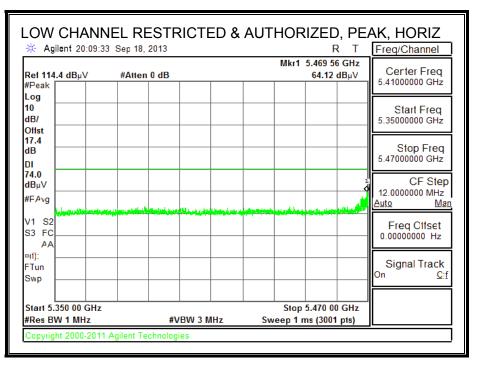
* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

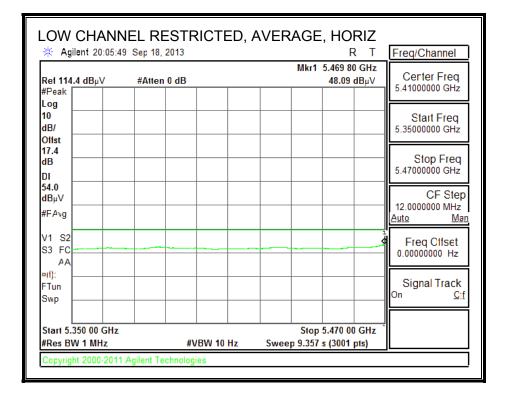
** Denotes a peak measurement that satisfies both peak and average emission limits.

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10.2.4. TX ABOVE 1 GHz 802.11a CDD MODE IN THE 5.6 GHz BAND

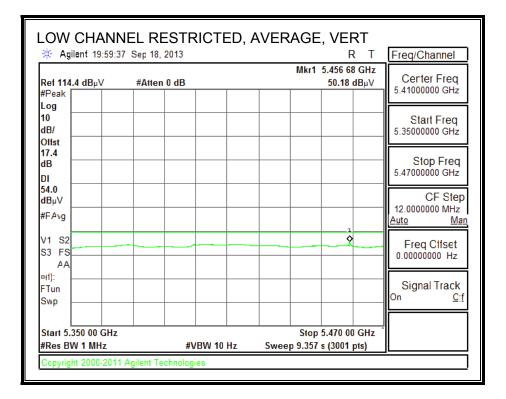
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)





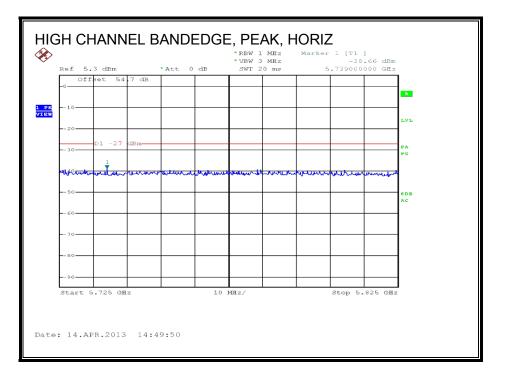
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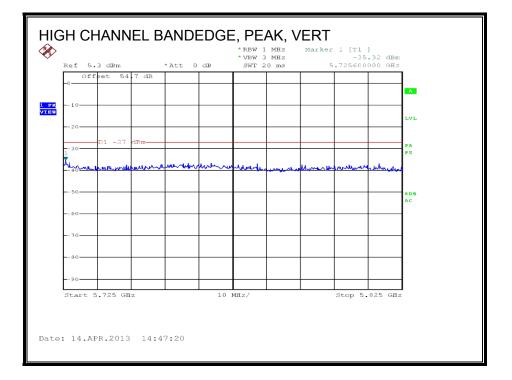
LOW CHANN # Agilent 20:00:27		FED & AUT	HORIZED, R	PEAK, VERT
Ret 114.4 dBµ∨ #Peak	#Atten 0 dB		Mkr1 5.373 28 (61.98 dE	Contex Fred
Log 10 dB/ Offst				Start Freq 5.35000000 GHz
17.4 dB DI				Stop Freq 5.47000000 GHz
74.0 dBμV #FAvg		ikalisekaterik di sala t	in J. J. J. Bendare consume	CF Step 12.0000000 MHz Auto Man
V1 S2 S3 FC AA				Freq Cifset 0.00000000 Hz
¤(1): FTun Swp				Signal Track On <u>Cif</u>
Start 5.350 00 GHz #Res BW 1 MHz	#VBW 3	MHz Sv	Stop 5.470 00 0 veep 1 ms (3001 p	
Copyright 2000-2011	Agilent Technologies			



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AUTHORIZED BANDEDGE (HIGH CHANNEL)

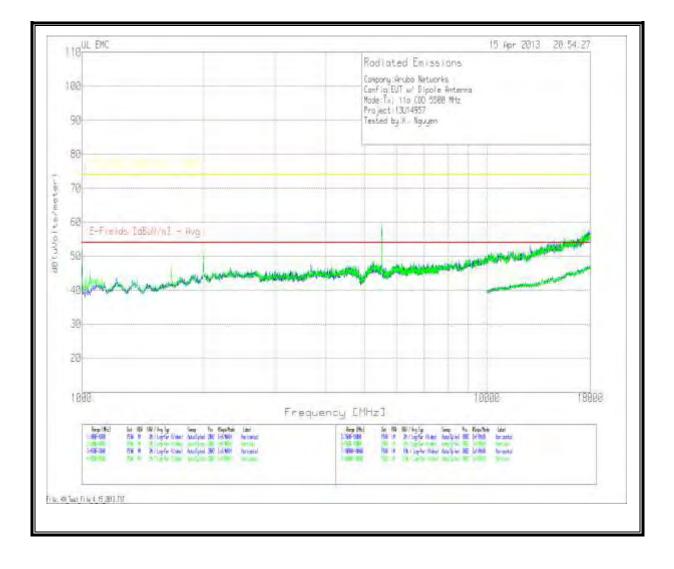




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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Project :13U	14957												
Company N	ame:Aruba N	√etworks											
Config:EUT	w/ Dipole Ar	ntenna											
Mode:Tx; 11	La CDD 5500 I	MHz											
Test By:K. N	guven												
	8-7-11												
Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1995.252	44.91	PK	31.7	-34.7	5.8	0	47.71	-	-	68.2	-20.49	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
2**	1661.169	46.19	РК	29.4	-34.8	5.6	0	46.39	54	-7.61	74	-27.61	Vert
3*	1997.001	47.39	PK	31.7	-34.7	5.8	0	50.19	-	-	68.2	-18.01	Vert

PK - Peak detector

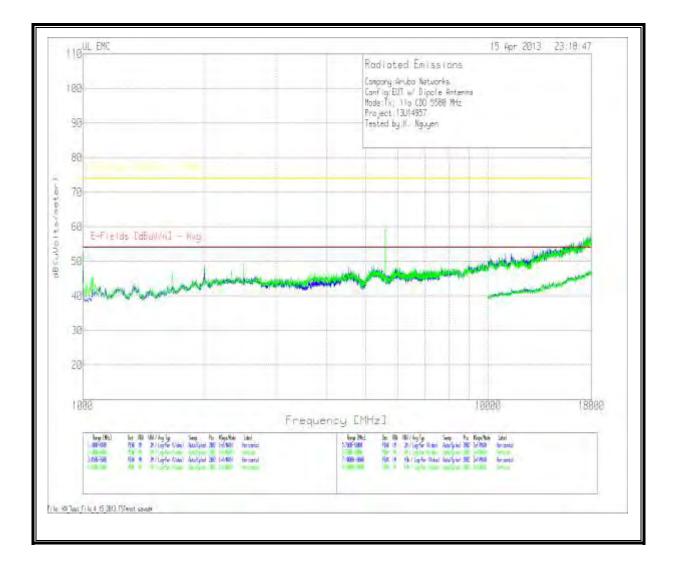
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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Mid Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode:Tx; 11a CDD 5580 MHz Test By:K. Nguyen

Horizontal

Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1993.503	44.87	PK	31.7	-34.7	5.8	0	47.67	-	-	68.2	-20.53	Horz
2**	2499.001	41.77	PK	32.4	-34.8	6.2	0	45.57	54	-8.43	74	-28.43	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
3**	1664.668	46.35	PK	29.4	-34.8	5.6	0	46.55	54	-7.45	74	-27.45	Vert
4*	1993.503	45.9	РК	31.7	-34.7	5.8	0	48.7	-	-	68.2	-19.5	Vert
5**	2331.084	43.53	PK	32.4	-34.8	6.1	0.1	47.33	54	-6.67	74	-26.67	Vert
6	2497.251	45.29	PK	32.4	-34.8	6.2	0.1	49.19	-	-	74	-24.81	Vert
6A	2497.251	30.66	VB1	32.4	-34.9	6.2	0	34.36	54	-19.64	-	-	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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<u>18-26 GHz</u>

as I	DINTAL UL EMC		1	Oct 2013	20:22:0
001			RF Emissions		
95			Order Number:13014957		
			Configuration:EUT with laptop Mode:11a CDD 2TX 5580MHz		
85			Mode:11a CDD 2TX 5580MHz Tested by / SN:K. Nguyen		
75	Peak Limit (dBuU/m)				
65					
	Avg Limit (dBuU/m)				
55	ποιποιοποιοποιοι το πορογο				
45					
43		وهم سل 1 اد المعاد م ال ال ال ال	and a company water and the	went Martin Mart	hundhauga
35	ananation with many many mathematical many states	versation with the standard and the	Mander Andrew		
25				*****	
15				******	*****
18	8		Terra .		1
		Frequency (_	
	Range (GHz) Det REU UBU / Avg. Type 1:18-26 PEAK 1M 3M	Sweep Pts #Swps/Mc Ronge Auto/Coled 1202 Inf/NAX	s (GHz) Det RBN UBN / Avg Typ	Sweep	Pta #Supa/M
ica	15 23 Aug 2013 al			0-4 2012	
ica				Oct 2013	
es l	al		RF Emissions	Oct 2013	
IC3	al		RF Emissions Order Number:13014957	Oct 2013	
iCa 05	al		RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
iCa 05	al		RF Emissions Order Number:13014957	Oct 2013	
95 85	al		RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
95 85	al ul EMC		RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
95 85 75	al ul EMC		RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
95 85 75:	al UL EMC Peok Limit (dBuV/m)		RF Emissions Order Number:13014957 Configuration:EUT with laptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
95 85 75:	al ul EMC		RF Emissions Order Number:13014957 Configuration:EUT with laptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
95 85 75 55	al UL EMC Peok Limit (dBuV/m)		RF Emissions Order Number:13014957 Configuration:EUT with laptop Mode:11a CDD 2TX 5588MHz	Oct 2013	Rev 9.5 12 20:22:0
95 85 75 55	al UL EMC Peok Limit (dBuV/m)		RF Emissions Order Number:13014957 Configuration:EUT with laptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
iCa 85 95 85 55 45	al UL EMC Peok Limit (dBuV/m)		RF Emissions Order Number:13014957 Configuration:EUT with laptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
iCa 05 95 85 75 55 55 45	al UL EMC Peok Limit (dBuV/m)		RF Emissions Order Number:13014957 Configuration:EUT with laptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
iCa 95 85 75 55 45 35	al UL EMC Peok Limit (dBuV/m)		RF Emissions Order Number:13014957 Configuration:EUT with laptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
iCa 95 85 75 55 45 35	al UL EMC Peok Limit (dBuV/m)		RF Emissions Order Number:13014957 Configuration:EUT with laptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
iCa 95 95 85 55 45 35 25	al UL EMC Peok Limit (dBuV/m)		RF Emissions Order Number:13014957 Configuration:EUT with laptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
iCa 95 95 85 55 55 35 25	al UL EMC Peok Limit (dBuV/m)		RF Emissions Order Number:13014957 Configuration:EUT with laptop Mode:11a CDD 2TX 5588MHz	Oct 2013	
iCa 05 95 85 55 55 35 25 15	al UL EMC Peok Limit (dBuU/m) Avg Limit (dBuU/m)		RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5588MHz	Oct 2013	20:22:0
iCa 95 95 85 55 45 35 25	al UL EMC Peok Limit (dBuU/m) Avg Limit (dBuU/m)		RF Emissions Order Number:13U14957 Configuration:EUT with loptop Mode:11a CDD 2TX 5580MHz Tested by / SN:K. Nguyen	Oct 2013	
11Ca 1	al UL EMC Peok Limit (dBuU/m) Avg Limit (dBuU/m)	Frequency (1	RF Emissions Order Number:13U14957 Configuration:EUT with loptop Mode:11a CDD 2TX 5580MHz Tested by / SN:K. Nguyen	Oct 2013	28:22:0

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Trace Ma	arkers										
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Avg Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	25.061	43.93	РК	34	-22.6	-9.5	45.83	54	-8.17	74	-28.17
2	25.394	44.13	РК	33.7	-23	-9.5	45.33	54	-8.67	74	-28.67
3	19.992	41.17	РК	33	-24	-9.5	40.67	54	-13.33	74	-33.33
4	25.274	42.97	РК	33.6	-22.9	-9.5	44.17	54	-9.83	74	-29.83

PK - Peak detector

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<u>26-40 GHz</u>

95	UL EMC	1 Det 2013 20:28:2
00		RF Emissions.
95		Drder Number:13014957
		Configuration:EUT with laptop Mode:11a CDD 2TX 5580MHz
85		Mode: 11a CDD 21X 5586MHz Tested by / SN:K. Nguyen
-		
75	Peok Limit (dBuV/m)	
65		
	Des Dante Call Mark	
55	Avg Limit (dBu0/m)	
45		1
	and the second of the second of the second of the	her have the period of the second and the second second second second second by the second her below have been by the second
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30		
25		
15		
19		
21	6	Frequency (GHz)
1	Range (GHz) Det RBU UBU / Avg Typ	
	Ronge (GHz) Det REU UBU / Avg Typ 1:26-48 PEAK 1M 3M	Sweep Pts #Swps/Mc Ronge (GHz) Det REU VEW / Avg Typ Sweep Pts #Swps/M Rute/Cpied 1883 Inf/MRX
tica	Test. TST 38915 2 Aug 2013 al	Rev 9.5 12
tica	al	
tica		Rev 9.5 12 1 Det 2013 20:28:2 RF Emissions
es	al UL EMC	1 Det 2013 20:20:2
es	al UL EMC	1 Det 2013 20:28:2 RF Emissions Order Number:13014957
tica	al UL EMC	1 Det 2013 20:28:2 RF Emissions
85 95	al ul emc	1 Oct 2013 20:28:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5580MHz
85 95	al UL EMC	1 Oct 2013 20:28:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5580MHz
95 85	al UL EMC	1 Oct 2013 20:28:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5580MHz
95 85	al UL EMC Peok Limit, (dBuV/m)	1 Oct 2013 20:28:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5580MHz
85 75 65	al UL EMC Peok Limit, (dBuV/m)	1 Oct 2013 20:28:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5580MHz
95 85 75	al UL EMC Peok Limit, (dBuV/m)	1 Oct 2013 20:28:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5580MHz
85 85 75 55	al UL EMC Peok Limit (dBuV/m) Avg Limit (dBuV/m)	1 Oct 2013 20:28:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5580MHz
85 75 65	al UL EMC Peok Limit (dBuV/m) Avg Limit (dBuV/m)	1 Oct 2013 20:28:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2TX 5580MHz
102 85 95 85 65 55 45	al UL EMC Peok Limit (dBuV/m) Avg Limit (dBuV/m)	1 Oct 2013 20:20:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode: if a CDD 2TX 5508MHz Tested by / SN:K. Nguyen
102 85 95 85 65 55 45	al UL EMC Peok Limit (dBuV/m) Avg Limit (dBuV/m)	1 Oct 2013 20:20:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode: if a CDD 2TX 5508MHz Tested by / SN:K. Nguyen
102 105 105 105 105 105 105 105 105	al UL EMC Peok Limit (dBuV/m) Avg Limit (dBuV/m) Avg Limit (dBuV/m)	1 Oct 2013 20:20:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode: if a CDD 2TX 5508MHz Tested by / SN:K. Nguyen
102 105 105 105 105 105 105 105 105	al UL EMC Peok Limit (dBuV/m) Avg Limit (dBuV/m) Avg Limit (dBuV/m)	1 Oct 2013 20:20:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode: if a CDD 2TX 5508MHz Tested by / SN:K. Nguyen
102 102 102 102 102 102 102 102	al UL EMC Peok Limit (dBuV/m) Avg Limit (dBuV/m) Avg Limit (dBuV/m)	1 Oct 2013 20:20:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode: if a CDD 2TX 5508MHz Tested by / SN:K. Nguyen
102 105 105 105 105 105 105 105 105	al UL EMC Peok Limit (dBuV/m) Avg Limit (dBuV/m) Avg Limit (dBuV/m)	1 Oct 2013 20:20:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode: if a CDD 2TX 5508MHz Tested by / SN:K. Nguyen
102 102 102 102 102 102 102 102	al UL EMC Peok Limit (dBuV/m) Avg Limit (dBuV/m) Avg Limit (dBuV/m)	1 Oct 2013 20:20:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode: if a CDD 2TX 5508MHz Tested by / SN:K. Nguyen
102 102 102 102 102 102 102 102	al UL EMC Peok Limit (dBuU/m) Avg Limit (dBuU/m) Avg Limit (dBuU/m)	1 Det 2013 20:20:2
11Ca 1	al UL EMC Peok Limit (dBuV/m) Avg Limit (dBuV/m) Avg Limit (dBuV/m) Ammedia Adv. and and a for the former of	I Det 2013 20:20:2 RF Emissions Order Number:13014957 Configuration:EUT with loptop Mode:11a CDD 2IX 5588MHz Tested by / SN:K. Nguyen
11Ca 1	al UL EMC Peok Limit (dBuU/m) Avg Limit (dBuU/m) Avg Limit (dBuU/m)	1 Oct 2013 20:20:2 RF Emissions Order Number:13014957 Configuration:EUT with laptop Mode:11a CDD 2TX 5588MHz Tested by / SN:K. Nguyen

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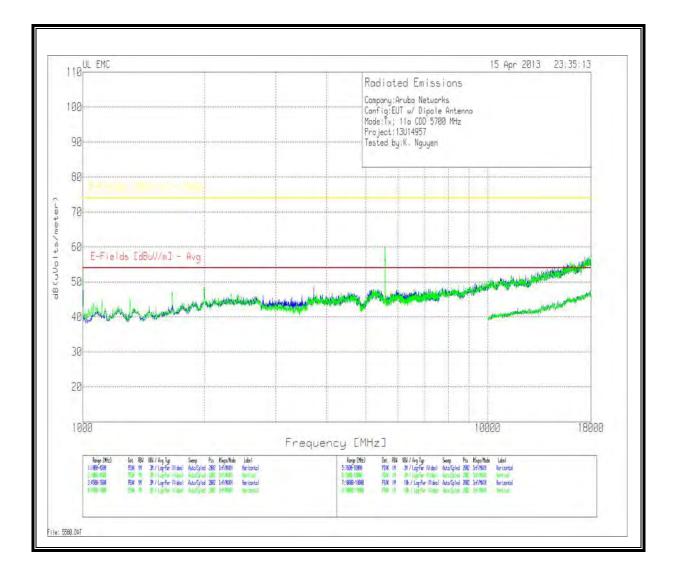
_	Trace Ma	arkers										
	Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Avg Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
	1	39.386	50.07	РК	37.9	-35.8	-9.5	42.67	54	-11.33	74	-31.33
	2	39.246	48.87	РК	38.6	-36.3	-9.5	41.67	54	-12.33	74	-32.33

PK - Peak detector

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High Channel



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-19.7

Vert

68.2

Project :13U14957

Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode:Tx; 11a CDD 5700 MHz

Test By:K. Nguyen

Horizontal													
Marker No.	Test Frequency [MHz]	Meter Reading [dBuV]	Detector	T345 Ant Factor [dB/m]	T145 Preamp Gain (dB)	Cable Factor [dB]	T159 BRF [dB]	Corrected Reading [dBuV]	E-Fields [dBuV/m] - Avg Limit	Avg Margin [dB]	E-Fields [dBuV/m] - Peak Limit	Peak Margin [dB]	Polarity
1	3721.639	42.73	PK	33.7	-35	7.1	0	48.53	-	-	74	-25.47	Horz
1A	3721.639	28.09	VB1	33.8	-34.9	7.1	0	34.09	54	-19.91	-	-	Horz
2*	1435.532	42.3	PK	28.3	-35	5.3	0	40.9	-	-	68.2	-27.3	Horz
Vertical													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m]-	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Li mit	[dB]	Peak Limit	[d B]	Polarity
3**	1117.191	47.82	PK	28.1	-35.6	4.9	0	45.22	54	-8.78	74	-28.78	Vert
4**	1309.595	46.96	PK	28.5	-35.2	5.1	0	45.36	54	-8.64	74	-28.64	Vert
5**	1662.919	46.9	PK	29.4	-34.8	5.6	0	47.1	54	-6.9	74	-26.9	Vert

0

48.5

PK-Peak detector

6*

VB1- KDB 789033 Method: VB Alternative Reduced Video

45.7

1995.252

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

31.7 -34.7 5.8

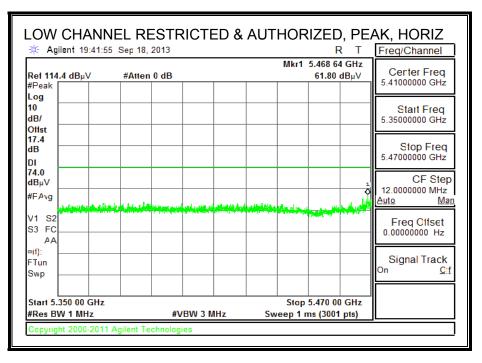
** Denotes a peak measurement that satisfies both peak and average emission limits.

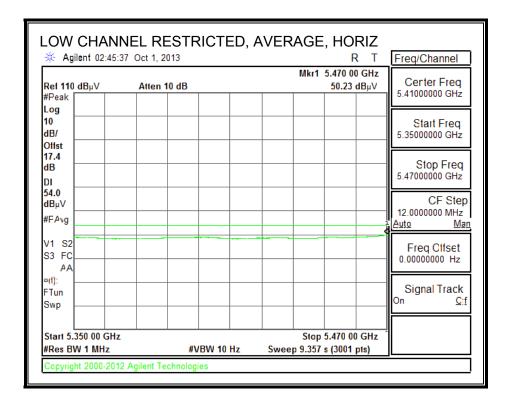
ΡK

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10.2.5. TX ABOVE 1 GHz 802.11n HT20 STBC MODE IN THE 5.6 GHz BAND

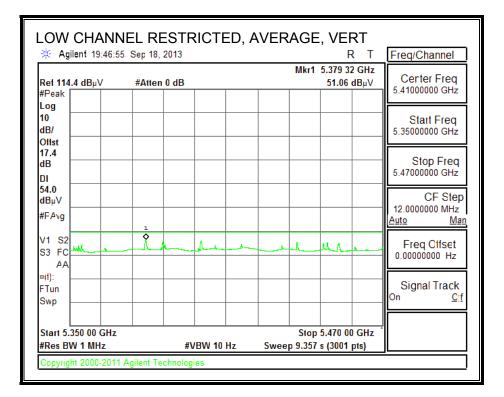
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)





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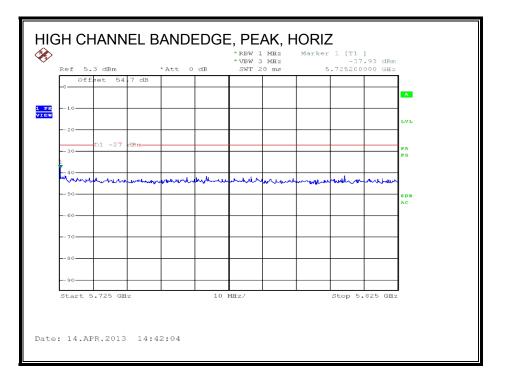
LOW CHA			D & AUT	HORIZE	D, PE/ кт	AK, VERT
<mark>Ref 114.4 dB</mark> µV #Peak	#Atten	0 dB		Mkr1 5.466 58.4	5 24 GHz 43 dBμV	Certer Freq 5.41000000 GHz
Log 10 dB/ Offst						Start Freq 5.3500000 GHz
17.4 dB DI						Stop Freq 5.47000000 GHz
74.0 dBμV #FAvg					1 \$	CF Step 12.0000000 MHz Auto Man
V1 S2 S3 FC AA			netional department		un tradict	Freq Clfset 0.00000000 Hz
¤(1): FTun Swp						Signal Track ^{On <u>C</u>!f}
Start 5.350 00 0 #Res BW 1 MH:		#VBW 3 Mi		Stop 5.470 veep 1 ms (30		
Copyright 2000-	2011 Agilent Teo	hnologies				

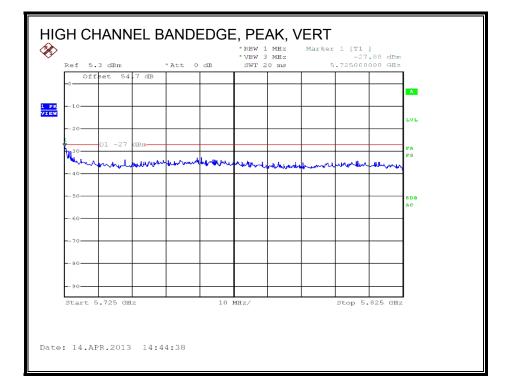


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AUTHORIZED BANDEDGE (HIGH CHANNEL)

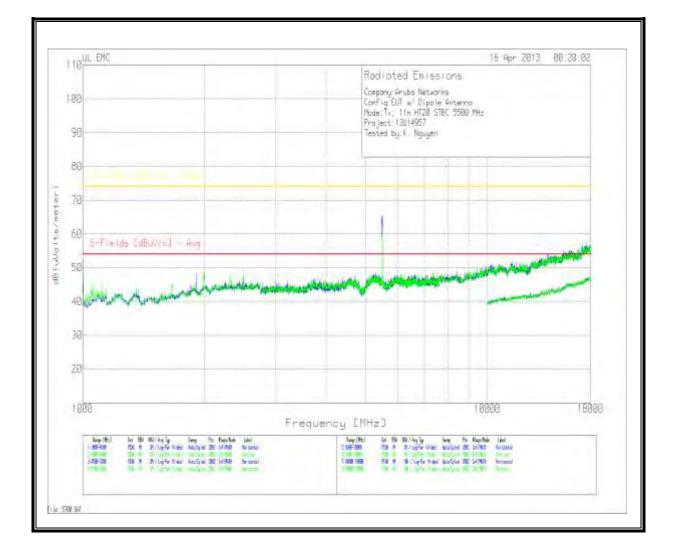




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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Company:A	Aruba Network	ks											
Config:EUT	w/ Dipole Ant	tenna											
Mode:Tx; 1?	1n HT20 STBC	5500 MHz											
Project:13U	14957												
Tested by:K.	Nguyen												
Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	. [MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1906.047	46.21	РК	31.1	-34.8	5.7	0	48.21	-	-	68.2	-19.99	Horz
2*	1993.503	45.47	РК	31.7	-34.7	5.8	0	48.27	-	-	68.2	-19.93	Horz
8	7328.886	38.81	РК	35.9	-35.3	9.2	0	48.61	-		74	-25.39	Horz
8A	7328.886	26.91	VB1	35.9	-35.3	9.2	0	36.71	54	-17.29	-	-	Horz
7**	7651.974	37.29	РК	36	-35.4	9.3	0.5	47.69	54	-6.31	74	-26.31	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	. [MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
3**	1664.668	45.33	РК	29.4	-34.8	5.6	0	45.53	54	-8.47	74	-28.47	Vert
4*	1991.754	46.25	РК	31.6	-34.7	5.8	0	48.95	-	-	68.2	-19.25	Vert
5	2493.753	45.38	PK	32.4	-34.8	6.2	0.1	49.28	-		74	-24.72	Vert
5A	2455.755	40.00	FN	32.4	- 34.0	6.2	0.1	31.47	L	·	+ +		

0.3 47.23

54 -6.77

74

-26.77

Vert

PK - Peak detector

6** 7631.184 36.73

VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

-35.3

9.5

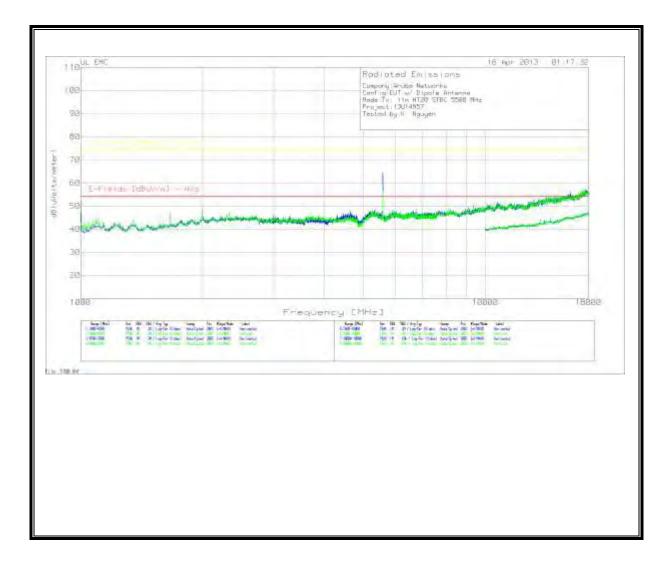
36

 $\ensuremath{^{\ast\ast}}$ Denotes a peak measurement that satisfies both peak and average emission limits.

РК

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Mid Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna

Mode:Tx; 11n HT20 STBC 5580 MHz

Test By:K. Nguyen

Horizontal													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1998.751	43.04	РК	31.7	-34.7	5.8	0	45.84	-	-	68.2	-22.36	Horz
Vertical													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
2**	1662.919	46.6	РК	29.4	-34.8	5.6	0	46.8	54	-7.2	74	-27.2	Vert
3*	1993.503	46.06	РК	31.7	-34.7	5.8	0	48.86	-	-	68.2	-19.34	Vert

PK - Peak detector

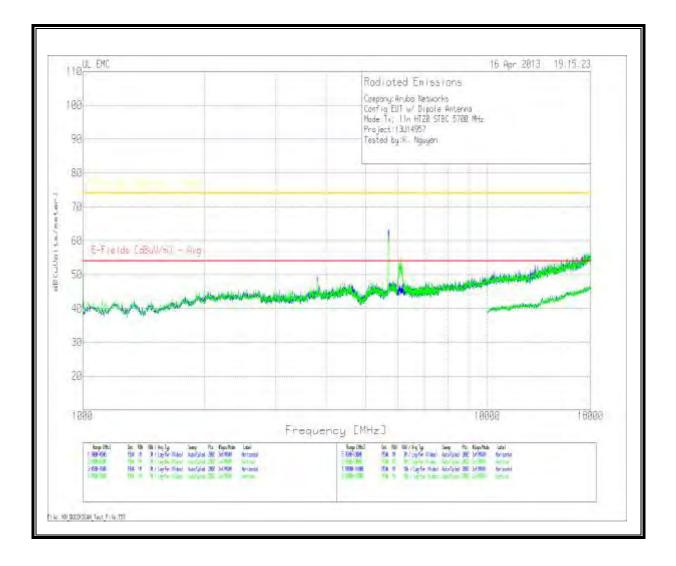
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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High Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode:Tx; 11n HT20 STBC 5700 MHz

Test By:K. Nguyen

Horizontal

Homzonitai													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1	3802.099	43.12	РК	33.8	-35	7.2	0.2	49.32	-	-	74	-24.68	Horz
1A	3802.099	29.38	VB1	33.8	-35	7.2	0.2	35.58	54	-18.42	-	-	Horz
2*	6132.884	36.52	РК	35.9	-35	8.6	0.2	46.22	-	-	68.2	-21.98	Horz
Vertical													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
3	3800.35	41.82	РК	33.8	-35	7.2	0.2	48.02	-	-	74	-25.98	Vert
3A	3800.35	32.95	VB1	33.8	-35	7.2	0.2	39.15	54	-14.85	-	-	Vert
4*	6114.293	45.76	РК	35.8	-35	8.6	0.3	55.46	-	-	68.2	-12.74	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

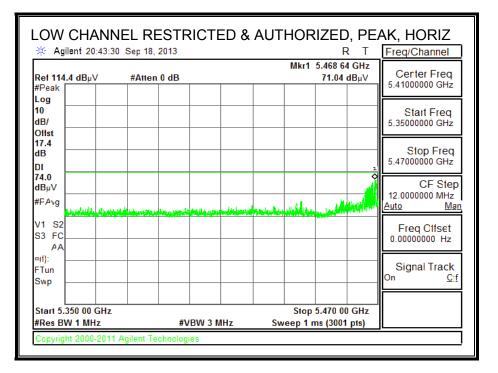
* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

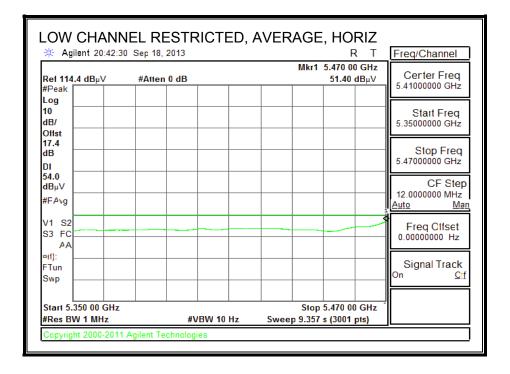
** Denotes a peak measurement that satisfies both peak and average emission limits.

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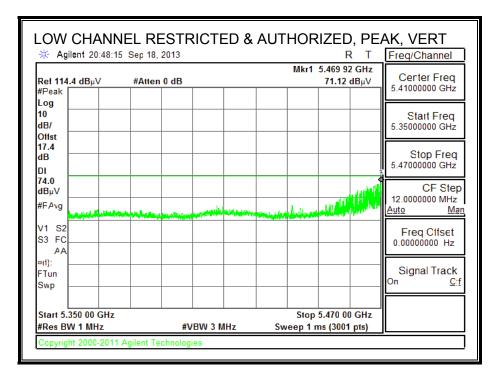
10.2.6. TX ABOVE 1 GHz 802.11n HT40 STBC MODE IN THE 5.6 GHz BAND

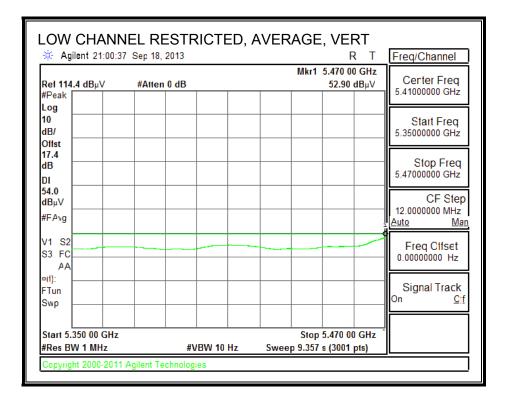
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)





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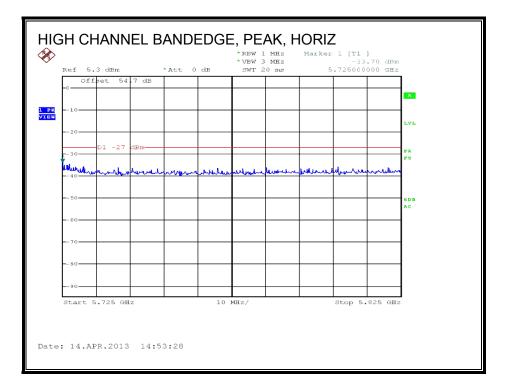


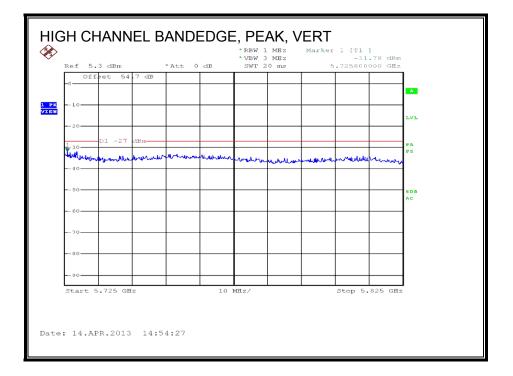


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AUTHORIZED BANDEDGE (HIGH CHANNEL)

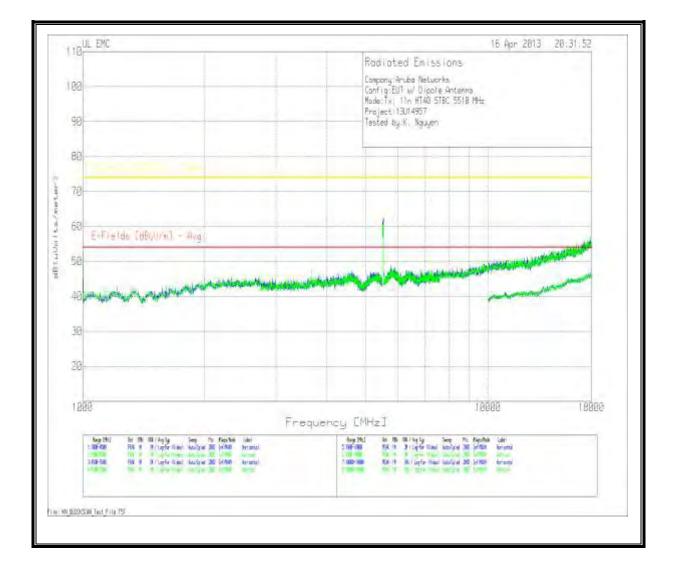




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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode:Tx; 11n HT40 STBC 5510 MHz

Test By:K. Nguyen

Horizontal	

Horizontai													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	9767.316	36.45	РК	37.4	-35.9	10.3	0.4	48.65	-	-	68.2	-19.55	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
2*	1993.503	42.17	РК	31.7	-34.7	5.8	0.1	45.07	-	-	68.2	-23.13	Vert
3**	3674.413	41.87	РК	33.6	-35	7.2	0.1	47.77	54	-6.23	74	-26.23	Vert
4*	9741.329	37.42	РК	37.4	-35.9	10.4	0.2	49.52	-	-	68.2	-18.68	Vert

PK - Peak detector

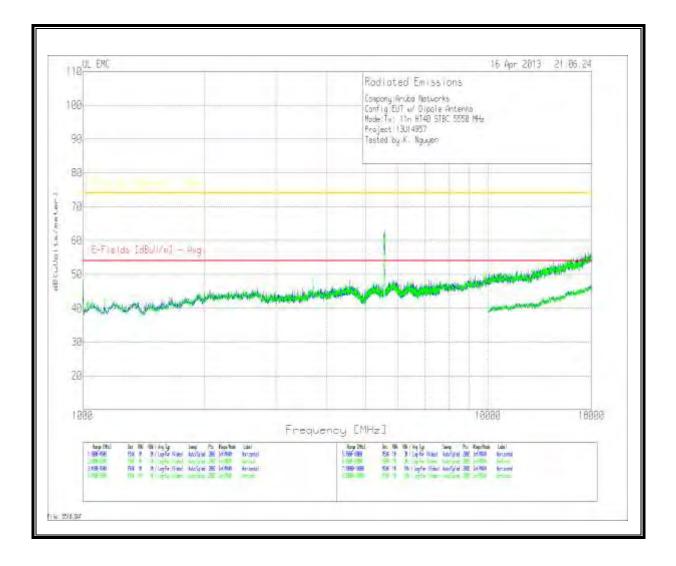
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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Mid Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode:Tx; 11n HT40 STBC 5550 MHz Test By:K. Nguyen

Horizontal

Horizontal													
	Test Frequency	Meter Reading		T345 Ant Factor	T145 Preamp	Cable Factor	T159 BRF	Corrected Reading	E-Fields [dBuV/m] -	Avg Margin	E-Fields [dBuV/m] -	Peak Margin	
Marker No.		[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1932.284	41.42	РК	31.2	-34.7	5.8	0.1	43.82	-	-	68.2	-24.38	Horz
2**	9096.852	35.73	РК	36.8	-35.6	10.1	0.3	47.33	54	-6.67	74	-26.67	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
3*	1935.782	42.54	РК	31.3	-34.7	5.8	0.1	45.04	-	-	68.2	-23.16	Vert
4	3700.65	43.43	РК	33.7	-35	7.1	0	49.23	-	-	74	-24.77	Vert
	3700.65	29.07	VB1	33.7	-35	7.1	0	34.87	54	-19.13	-	-	Vert
5*	9881.659	38.22	PK	37.7	-35.9	10.4	0.3	50.72	-	-	68.2	-17.48	Vert

PK - Peak detector

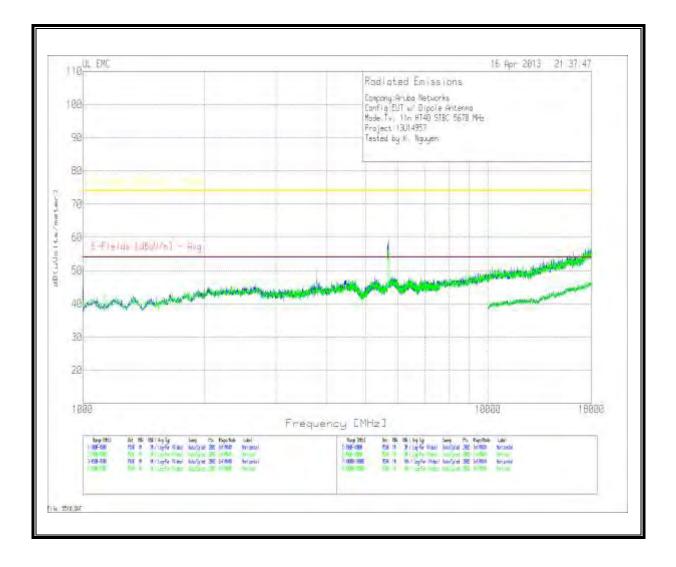
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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High Channel



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Company Name:Aruba Networks Config:EUT w/ Dipole Antenna Mode:Tx; 11n HT40 STBC 5670 MHz Test By:K. Nguyen

Horizontal

Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1	3781.109	43.37	PK	33.8	-35	7.2	0.1	49.47	-	-	74	-24.53	Horz
	3781.109	30.75	VB1	33.8	-35	7.2	0.2	36.95	54	-17.05	-		Horz
3*	8759.02	37.36	PK	36.4	-35.5	9.9	0.2	48.36	-	-	68.2	-19.84	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
2	3781.109	42.77	PK	33.8	-35	7.2	0.1	48.87	-	-	74	-25.13	Vert
	3781.109	30.93	VB1	33.8	-34.9	7.2	0.1	37.13	54	-16.87	-	-	Vert
4*	8888.956	38.27	PK	36.6	-35.6	10	0.3	49.57	-	-	68.2	-18.63	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

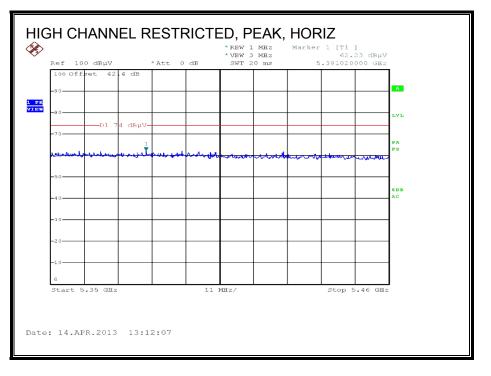
 $\ensuremath{^{\ast\ast}}$ Denotes a peak measurement that satisfies both peak and average emission limits.

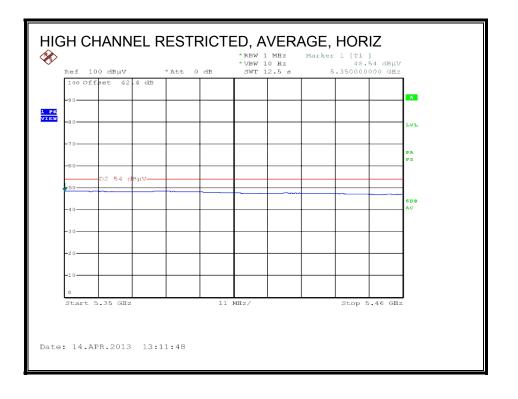
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10.3. PATCH ANTENNA

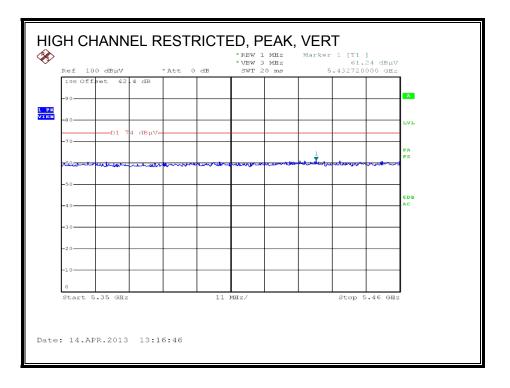
10.3.1. TX ABOVE 1 GHz 802.11a CDD 2TX MODE IN THE 5.3 GHz BAND

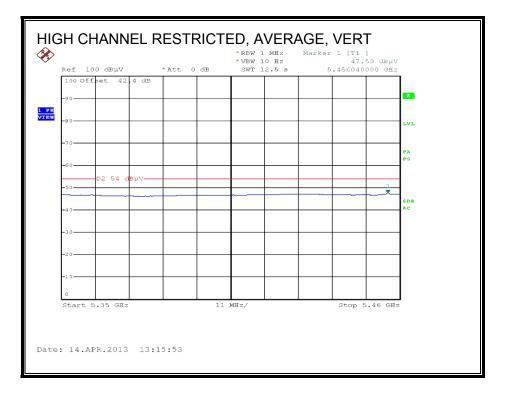
RESTRICTED BANDEDGE (HIGH CHANNEL)





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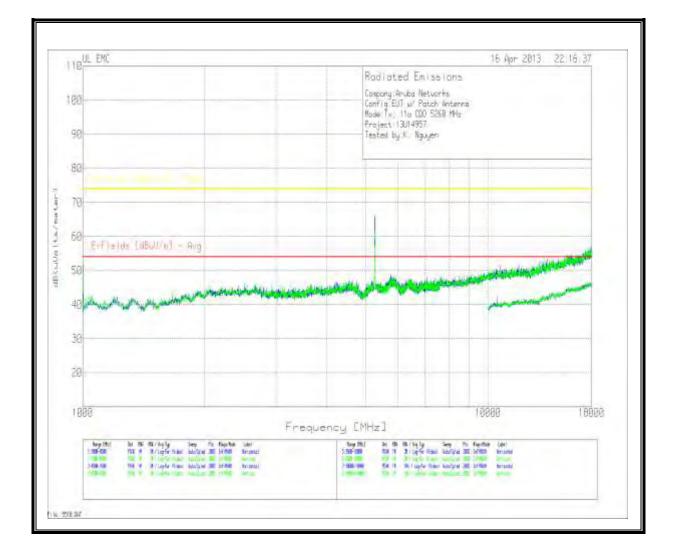




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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Company Name:Aruba Networks Config:EUT w/ Patch Antenna Mode:Tx; 11a CDD 5260 MHz Test By:K. Nguyen

Horizontal

Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	3142.679	39.93	РК	33.2	-35.2	6.7	0.2	44.83	-	-	68.2	-23.37	Horz
2*	5914.443	37.84	РК	35.6	-34.9	8.5	0.6	47.64	-	-	68.2	-20.56	Horz
3*	8545.927	36.8	РК	36.2	-35.5	9.7	0.2	47.4	-	-	68.2	-20.8	Horz
Vertical													

	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
4**	3265.117	41.23	РК	33.3	-35.1	6.9	0.1	46.43	54	-7.57	74	-27.57	Vert
5*	5877.261	37.21	РК	35.5	-34.9	8.5	1	47.31	-	-	68.2	-20.89	Vert
6**	9143.628	36.27	РК	36.8	-35.6	10.1	0.3	47.87	54	-6.13	74	-26.13	Vert

PK - Peak detector

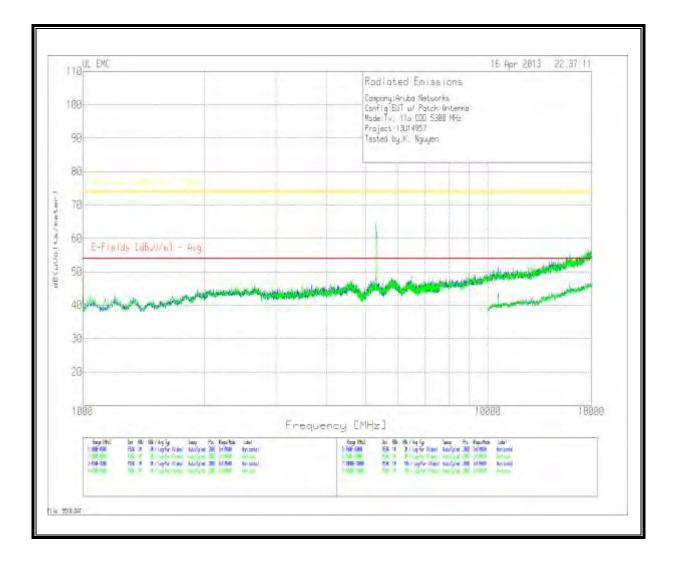
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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Mid Channel



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Company Name:Aruba Networks Config:EUT w/ Patch Antenna Mode:Tx; 11a CDD 5300 MHz Test By:K. Nguyen

Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1**	3677.911	39.95	PK	33.7	-35	7.2	0.1	45.95	54	-8.05	74	-28.05	Horz
5*	8961.719	35.94	PK	36.7	-35.6	10	0.3	47.34	-	-	68.2	-20.86	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
2*	3476.762	41.74	PK	33.3	-35	7	0.1	47.14	-	-	68.2	-21.06	Vert
3*	4493.003	38.63	PK	34.2	-35	7.7	0.2	45.73	-	-	68.2	-22.47	Vert
5													
4**	4715.342	38.29	PK	34.4	-35	7.7	0.2	45.59	54	-8.41	74	-28.41	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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<u>18-26 GHz</u>

ns!	UL EMC	1 Oct 2013	2111114
42		RF Emissions	
95		Drder Number 13014957	
		Configuration:EUT with loptop ModelTla CDD 2TX 5388 MHz (Patch) Tested by / SNKK Nguyan	
85		Tested by / SN:K Nguyen	
	Post Limit Collaura		
75	Pada Crary coodoras		
65			
55	Avg Limit (dBuU/m)		
45			
	All mune share had any server have	in and a maker and a she had a she want when any where a she was here and the she was here and the	an all and the second second
35	and the second sec		
25			
15			
2			
18	н	Frequency (GHz)	
1	Ronge (GHz) Det RBU UBU / Avg 1 1/10-26 PCAK IM 3H		Pta #Supe/
- 1	1/10-26 PC# 1M 3H	fautur/Spitul 1282 Inf/MAX	
.ICe	al	1.0.2.0010	
05	al LL EMC	1 Oct 2013	
05	al UL EMC	RF Emissions	
95	al ul emc	RF Emissions Order Number : 13014957	
05 95	UL EMC	RF Emissions Order Number : 13014957	
05		RF Emissions	
95 95 85	UL EMC	RF Emissions Order Number : 13014957	
05 95	UL EMC	RF Emissions Order Number : 13014957	
95 95 85	UL EMC	RF Emissions Order Number : 13014957	
95 95 85 75 65	UL EMC	RF Emissions Order Number : 13014957	
95 95 85 75	Peraft Limit (dBuU/m)	RF Emissions Order Number : 13014957	Rev 9.5 12
95 95 85 75 65	UL EMC Peak Limit (dBuU/m) Avg Limit (dBuU/m)	RF Emissions Order Number:13014957 Configuration:EUT with laptap Madeilla CDD 2TX 5388 MHz (Patch) Tested by / SNiK, Nguyen	21+1114
95 95 85 75 65	UL EMC	RF Emissions Order Number(13014957 Configuration(EUT with laptop Madeilla CDD 2TX 5388 MHz (Patch) Tested by / SNiK, Nguyen	21+1114
95 95 85 75 65	UL EMC Peak Limit (dBuU/m) Avg Limit (dBuU/m)	RF Emissions Order Number:13014957 Configuration:EUT with laptap Madeilla CDD 2TX 5388 MHz (Patch) Tested by / SNiK, Nguyen	21+1114
95 95 85 75 55 45	UL EMC Peans Limit (dBuU/m) Avg Limit (dBuU/m)	RF Emissions Order Number:13014957 Configuration:EUT with laptap Madeilla CDD 2TX 5388 MHz (Patch) Tested by / SNiK, Nguyen	21+1114
95 95 85 75 55 45	UL EMC Peans Limit (dBuU/m) Avg Limit (dBuU/m)	RF Emissions Order Number:13014957 Configuration:EUT with laptap Madeilla CDD 2TX 5388 MHz (Patch) Tested by / SNiK, Nguyen	21+1114
95 95 85 75 55 45 35	UL EMC Preate Limit (dBuU/m) Avg Limit (dBuU/m)	RF Emissions Order Number(130)14937 Configuration:EUT with loptop Hodellia CDD 27X 5388 MHz (Patch) Tested by / SNik, Nguyen	21+1114
95 95 85 75 55 45 35	UL EMC Parata Limit EdGuU/mj Avg Limit EdGuU/mj	RF Emissions Order Number(130)14937 Configuration:EUT with loptop Hodellia CDD 27X 5388 MHz (Patch) Tested by / SNik, Nguyen	21+1114
95 95 85 75 55 45 35 25	UL EMC Parata Limit EdGuU/mj Avg Limit EdGuU/mj	RF Emissions Order Number(130)14937 Configuration:EUT with loptop Hodellia CDD 27X 5388 MHz (Patch) Tested by / SNik, Nguyen	21+111+4
95 95 85 75 55 45 35 25	UL EMC	RF Emissions Order Number:13014957 Configuration:EUT with laptap Modellia CDD 21X 5388 MHz (Patch) Tested by / SNIK, Nguyen	21:111:4
95 95 85 65 55 35 25 15	UL EMC Peans Limit (dBull/m) Avg Limit (dBull/m)	RF Emissions Order Number(130)14937 Configuration:EUT with loptop HodelTta CDD 27X 5388 MHz (Patch) Tested by / SNIK, Nguyan	21:11:14
95 95 85 65 55 35 25 15	UL EMC	RF Emissions Order Number:13014957 Configuration:EUT with loptop ModelIta CDD 2TX 5388 MHz (Patch) Tested by / SNik, Nguyen	21:11:4
95 95 65 55 45 35 25 15 11	UL EMC Peans Limit (dBull/m) Avg Limit (dBull/m)	RF Emissions Order Number(130)14937 Configuration:EUT with loptop HodelTta CDD 27X 5388 MHz (Patch) Tested by / SNIK, Nguyan	21:11:14

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Trace Ma	arkers										
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Avg Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	25.494	44.4	РК	33.9	-23.3	-9.5	45.50	54	-8.50	74	-28.50
2	25.047	44	РК	34.1	-22.6	-9.5	46.00	54	-8.00	74	-28.00
3	18.473	41.3	РК	32.4	-24.7	-9.5	39.50	54	-14.50	74	-34.50

PK - Peak detector

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<u>26-40 GHz</u>

.02	UL EMC	1 Oct 2013 20151 20
		RF Emissions
95		Order Number: 13U14957
85		Configuration:EUT with loptop Hode (16 COD 27X S309 MHz (Patch) Tested by / SN:K. Nguyen
75	Peak Limit (dBuV/m)	
65		
55	Avg Limit (dBa⊍/m)	
45		
35	ananthetmananana manananananananananananananana	here we a down when the photometers we the the state of the second and the second and the second and the second
25		
15		
5	5	Frequency (GHz)
rtica	Test, TST 38915 2 Aug 2813	Rev 9.5 12
185	UL EMC	1 Oct 2013 20151 20 RF Emissions
95		Drder Number: 13014957
		Configuration:EUT with laptop Made 11a CDD 2TX 5360 MHz (Patch) Tested by / SN:K. Nguyen
85	Commence and all all and a second second	Tested by / SN:K. Nguyen
0.0		
75	Peole Limit (dBuildm)	
	Peak, L. (m. (., (aBuU/m)	
75		
75 65	***************************************	
75 65 55	Avg Limit (dBuU/m)	
75 65 55 45	Avg Limit (dBuU/m)	
75 65 55 45 35	Avg Limit (dBuU/m)	
75 55 45 35 25	Avg. Limit (dBuU/m)	2
75 55 45 35 25 15	Avg. Limit (dBuU/m)	Frequency (GHz)

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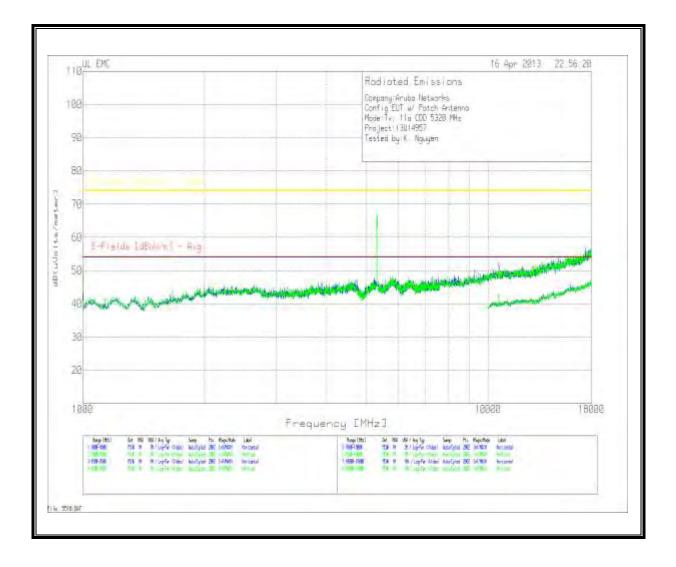
Trace Ma	arkers										
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	0 0	Peak Limit (dBuV/m)	PK Margin (dB)
1	37.133	49.53	РК	37.2	-37.4	-9.5	39.83	54	-14.17	74	-34.17
4	36.978	49.4	РК	37.2	-37.6	-9.5	39.50	54	-14.50	74	-34.50
2	36.97	50.57	РК	37.2	-37.6	-9.5	40.67	54	-13.33	74	-33.33
3	39.153	49.93	РК	38.1	-36.7	-9.5	41.83	54	-12.17	74	-32.17

PK - Peak detector

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High Channel



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Project :13L	14957												
Company N	ame:Aruba N	letworks											
Config:EUT	w/ Patch Ant	enna											
Mode: Tx; 1	1a CDD 5320	MHz											
Test By:K. N	guyen												
Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1**	2231.384	41.88	РК	32.3	-34.8	6	0.1	45.48	54	-8.52	74	-28.52	Horz
4*	9242.379	38.78	PK	36.9	-35.7	10.2	0.2	50.38	-	-	68.2	-17.82	Horz
6**	10635.682	28.9	PK	38.4	-35.4	10.7	0.2	42.8	54	-11.2	74	-31.2	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
2**	1664.668	44	РК	29.4	-34.8	5.6	0.1	44.3	54	-9.7	74	-29.7	Vert
3**	3660.42	41.2	РК	33.6	-35	7.1	0.2	47.1	54	-6.9	74	-26.9	Vert
5**	9367.116	38.31	РК	37	-35.7	10.2	0.3	50.11	-	-	74	-23.89	Vert
5A	9367.116	24.73	VB1	37	-35.7	10.2	0.3	36.53	54	-17.47	-	-	Vert
7**	10639.68	28.75	PK	38.4	-35.4	10.7	0.1	42.55	54	-11.45	74	-31.45	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

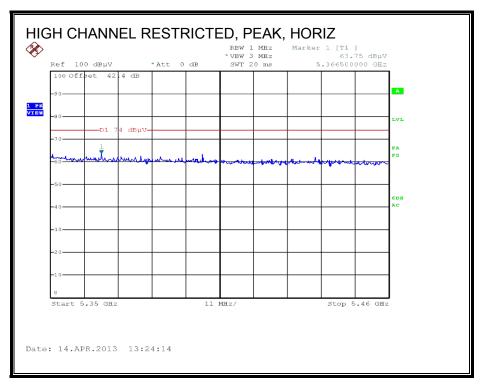
* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

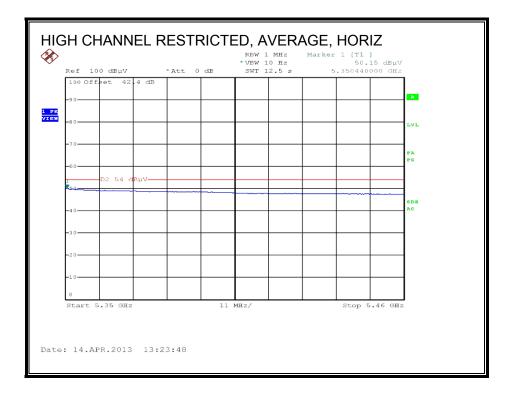
** Denotes a peak measurement that satisfies both peak and average emission limits.

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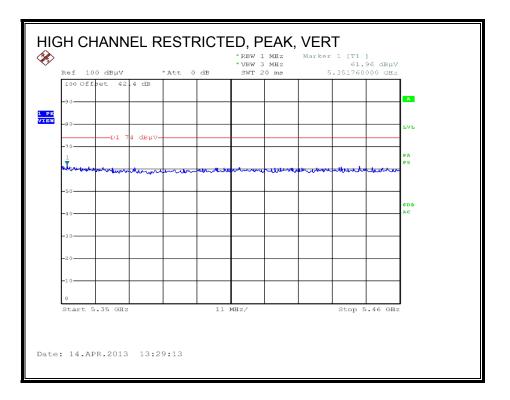
10.3.2. TX ABOVE 1 GHz 802.11n HT20 STBC 2TX MODE IN THE 5.3 GHz BAND

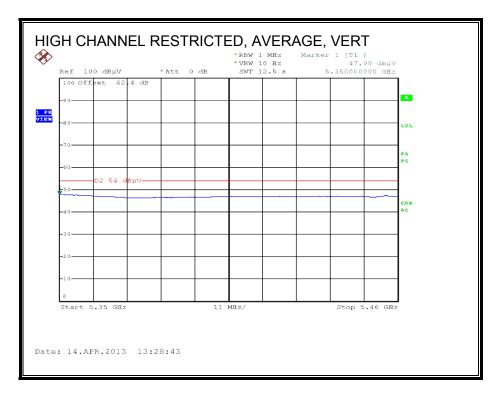
RESTRICTED BANDEDGE (HIGH CHANNEL)





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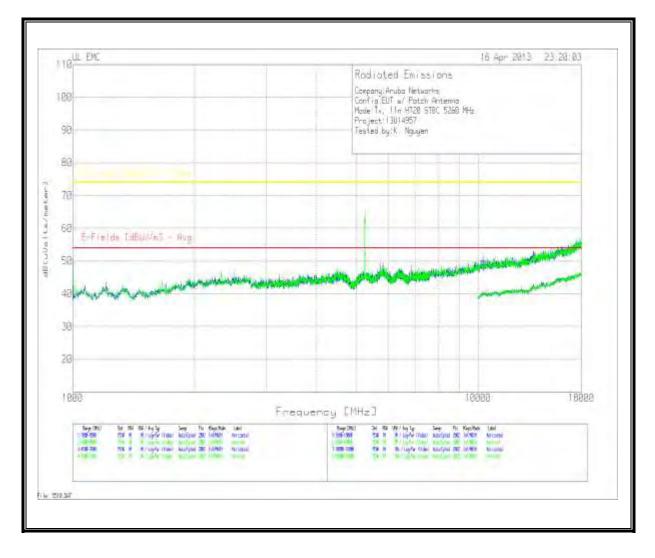




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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Project :13U14957

Company Name:Aruba Networks Config:EUT w/ Patch Antenna Mode: Tx; 11n HT20 STBC 5260 MHz Test By:K. Nguyen

Horizontal

Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1**	1208.146	45.4	РК	28.4	-35.4	5	0.1	43.5	54	-10.5	74	-30.5	Horz
5*	6831.584	38.94	РК	35.8	-35.1	9	0.1	48.74	-	-	68.2	-19.46	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
2**	1662.919	43.72	PK	29.4	-34.8	5.6	0.1	44.02	54	-9.98	74	-29.98	Vert
3*	1997.001	43.09	PK	31.7	-34.7	5.8	0.1	45.99	-	-	68.2	-22.21	Vert
4**	2327.586	43.54	РК	32.4	-34.8	6.1	0.1	47.34	54	-6.66	74	-26.66	Vert

PK - Peak detector

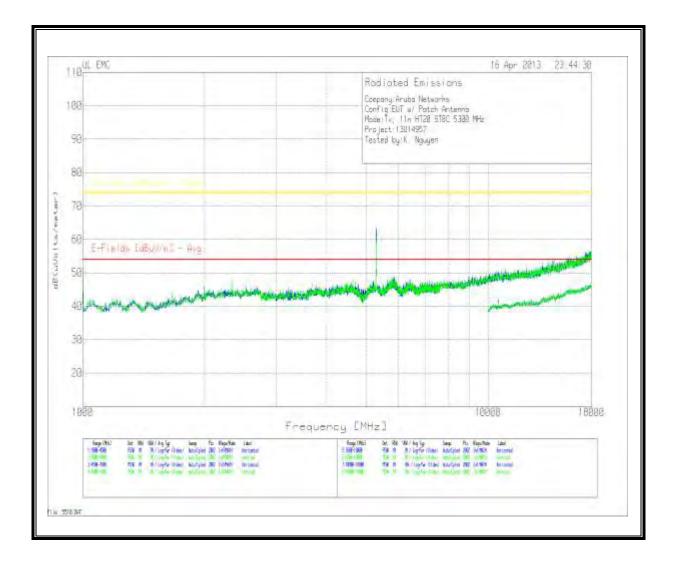
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

 $\ensuremath{^{**}}$ Denotes a peak measurement that satisfies both peak and average emission limits.

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Mid Channel



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Project :13U14957

Company Name:Aruba Networks Config:EUT w/ Patch Antenna Mode: Tx; 11n HT20 STBC 5300 MHz Test By:K. Nguyen

Horizontal

Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1930.535	41.89	PK	31.2	-34.8	5.8	0.1	44.19	-	-	68.2	-24.01	Horz
6*	10599.7	28.02	PK	38.4	-35.5	10.7	0.3	41.92	-	-	68.2	-26.28	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
2**	1664.668	43.91	PK	29.4	-34.8	5.6	0.1	44.21	54	-9.79	74	-29.79	Vert
3**	2332.834	44.18	PK	32.4	-34.8	6.1	0.1	47.98	54	-6.02	74	-26.02	Vert
4*	9912.844	37.93	PK	37.7	-35.8	10.5	0.2	50.53	-	-	68.2	-17.67	Vert
5*	10599.7	27.35	PK	38.4	-35.5	10.7	0.3	41.25	-	-	68.2	-26.95	Vert

PK - Peak detector

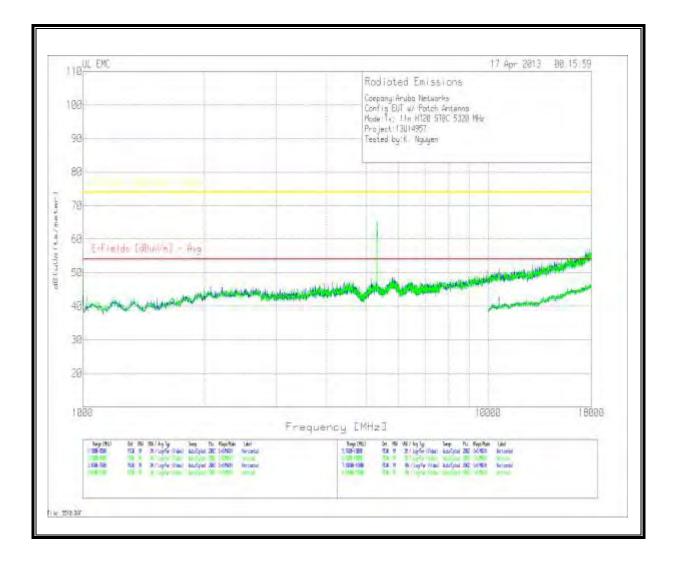
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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High Channel



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Project :13U14957

Company Name:Aruba Networks Config:EUT w/ Patch Antenna Mode: Tx; 11n HT20 STBC 5320 MHz Test By:K. Nguyen

Horizontal

Homzontai													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	2059.97	41.09	PK	31.9	-34.8	5.8	0.1	44.09	-	-	68.2	-24.11	Horz
3**	10639.68	29.27	PK	38.4	-35.4	10.7	0.1	43.07	54	-10.93	74	-30.93	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
2*	2077.461	40.49	PK	31.9	-34.8	5.9	0.1	43.59	-	-	68.2	-24.61	Vert
4**	10643 678	27 81	PK	38.4	-35.4	10.7	0.1	41.61	54	-12 39	74	-32 39	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

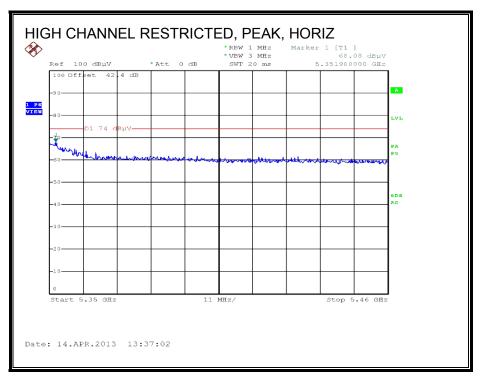
* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

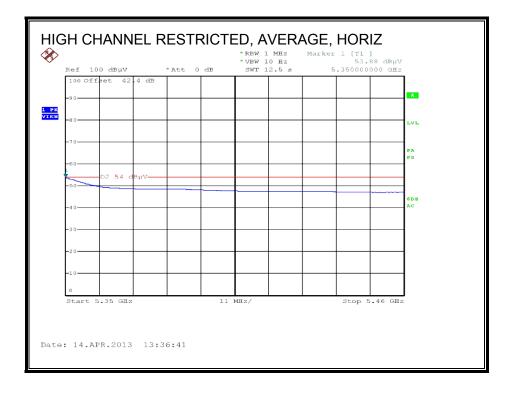
** Denotes a peak measurement that satisfies both peak and average emission limits.

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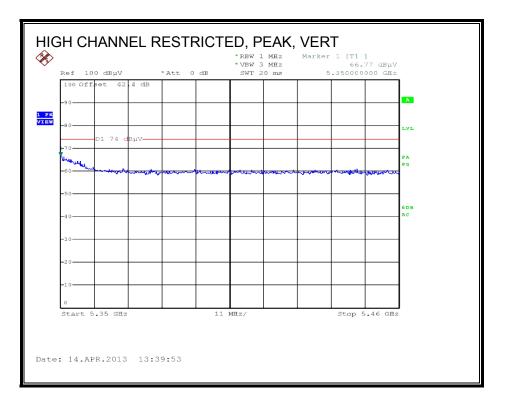
10.3.3. TX ABOVE 1 GHz 802.11n HT40 STBC 2TX MODE IN THE 5.3 GHz BAND

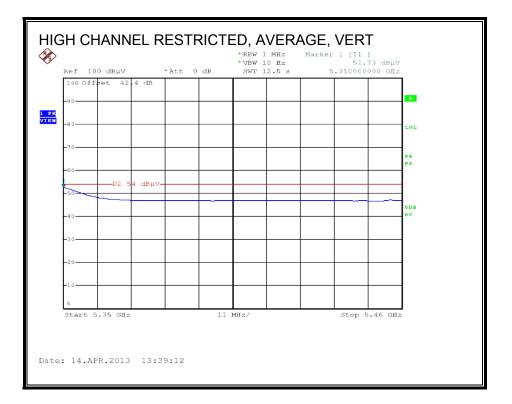
RESTRICTED BANDEDGE (HIGH CHANNEL)





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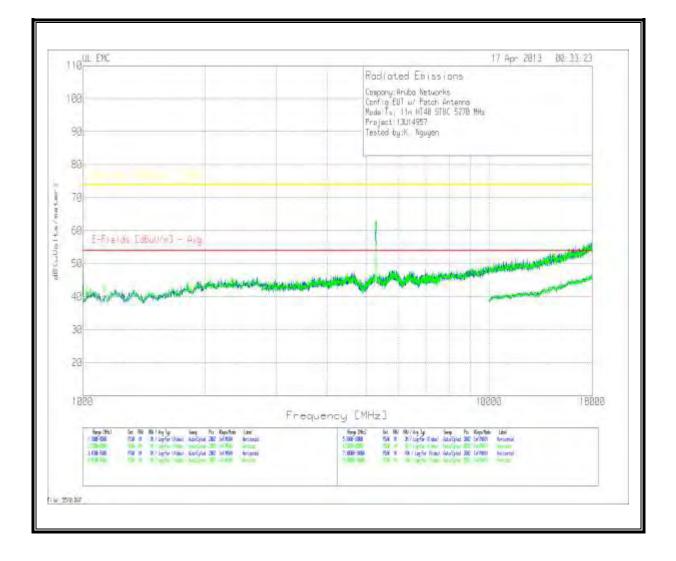




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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Config:EUT	ame:Aruba N w/ Patch Anto 1n HT40 STBC	enna											
Horizontal													
	Test Frequency	Meter Reading		T345 Ant Factor	T145 Preamp	Cable Factor	T159 BRF	Corrected Reading	E-Fields [dBuV/m] -	Avg Margin	E-Fields [dBuV/m] -	Peak Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1**	2203.398	40.94	РК	32.3	-34.8	6	0.1	44.54	54	-9.46	74	-29.46	Horz
3**	4509.295	38.36	PK	34.2	-34.9	7.7	0.1	45.46	54	-8.54	74	-28.54	Horz
5**	8296.452	36.54	PK	36	-35.5	9.6	0.2	46.84	54	-7.16	74	-27.16	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
2**	2324.088	42.5	РК	32.4	-34.8	6.1	0.1	46.3	54	-7.7	74	-27.7	Vert
4**	4507.746	39.24	РК	34.2	-34.9	7.7	0.1	46.34	54	-7.66	74	-27.66	Vert
6	8327.636	37.72	РК	36.1	-35.4	9.7	0.3	48.42	-	-	74	-25.58	Vert
6A	8327.636	29.36	VB1	36.1	-35.4	9.7	0.3	40.06	54	-13.94	-	-	Vert

PK - Peak detector

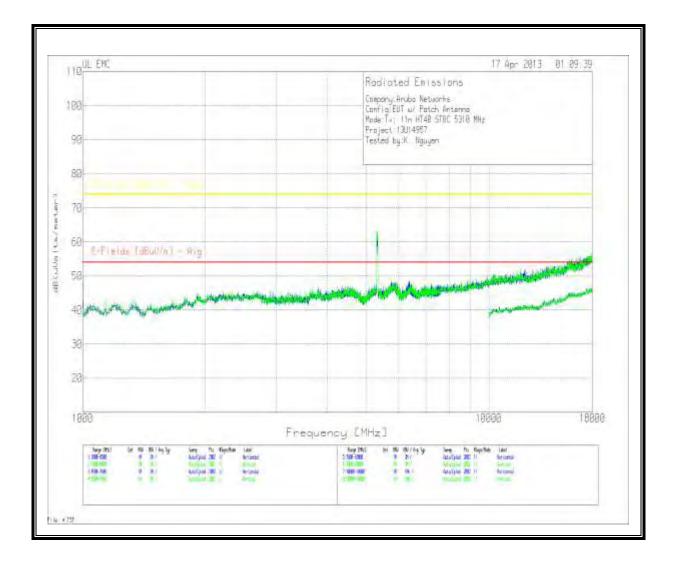
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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High Channel



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	ruba Networ w/ Patch Ant												
Mode:Tx; 11	n HT40 STBC	5310 MHz											
Project:13U	14957												
Tested by:K	. Nguyen												
Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1801.099	41.94	РК	30.3	-34.8	5.6	0.1	43.14	-	-	68.2	-25.06	Horz
2*	2966.017	39.25	РК	33.1	-35.1	6.6	0.1	43.95	-	-	68.2	-24.25	Horz
3*	6379.21	38.82	РК	35.9	-35.1	8.8	0.2	48.62	-	-	68.2	-19.58	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
4*	5915.992	39.03	PK	35.6	-34.9	8.5	0.6	48.83			68.2	-19.37	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

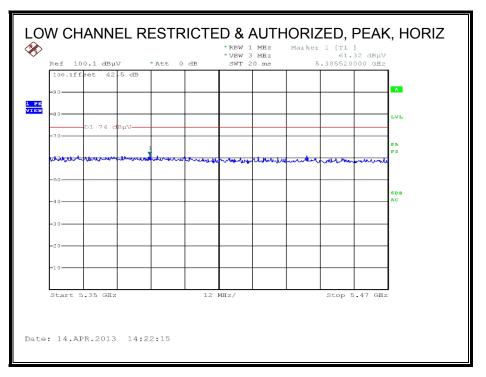
** Denotes a peak measurement that satisfies both peak and average emission limits.

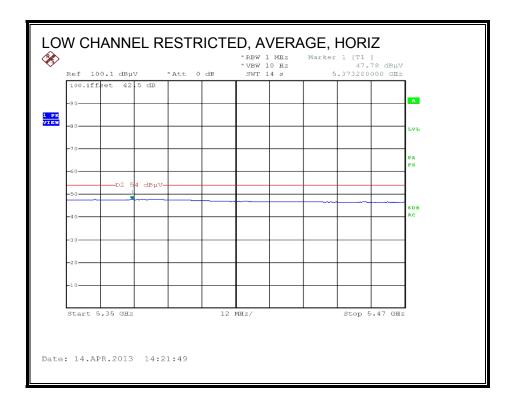
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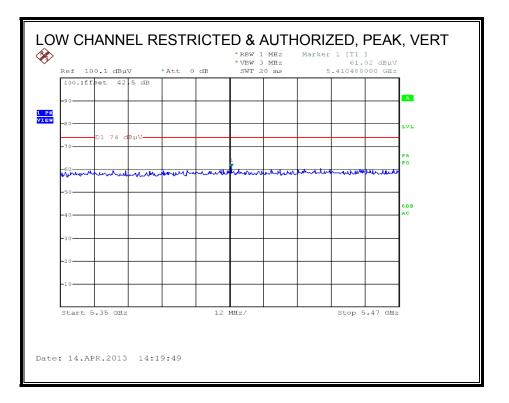
10.3.4. TX ABOVE 1 GHz 802.11a CDD 2TX MODE IN THE 5.6 GHz BAND

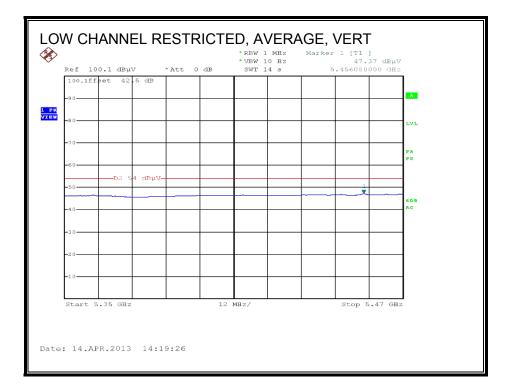
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)





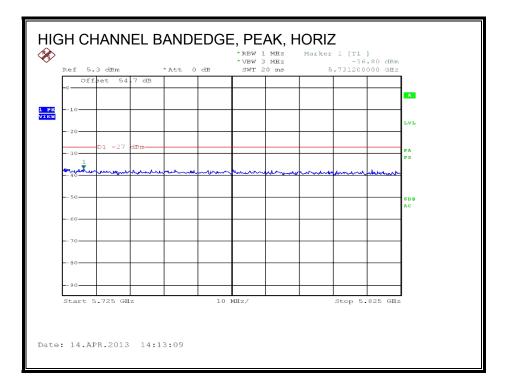
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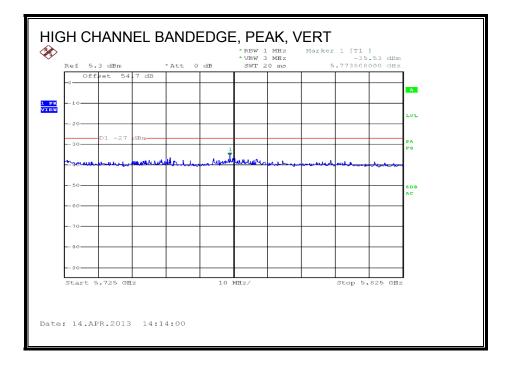




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AUTHORIZED BANDEDGE (HIGH CHANNEL)

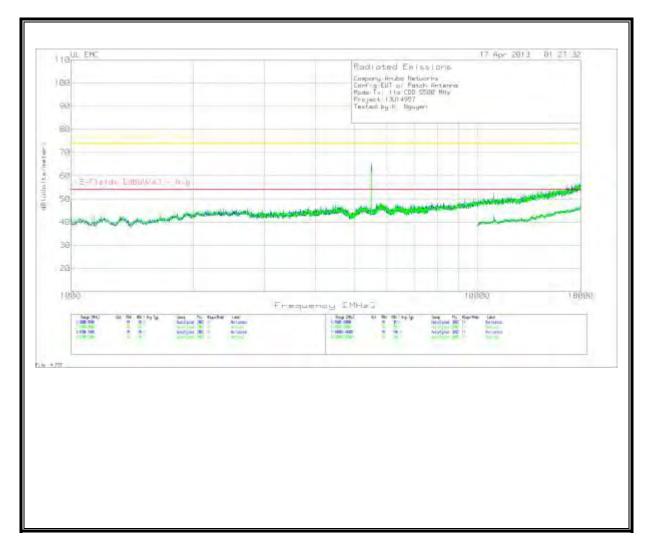




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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Project :13U14957 Company Name:Aruba Networks Config:EUT w/ Patch Antenna

Mode:Tx; 11a CDD 5500 MHz Test By:K. Nguyen

Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
1*	2196.402	41.14	PK	32.2	-34.8	6	0.1	44.64	-	-	68.2	-23.56	Horz
2**	10999.5	29.46	PK	38.4	-35.2	10.8	0.3	43.76	54	-10.24	74	-30.24	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] -	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Avg Limit	[dB]	Peak Limit	[dB]	Polarity
3**	1664.668	43.68	РК	29.4	-34.8	5.6	0.1	43.98	54	-10.02	74	-30.02	Vert
4*	4473.763	41.78	РК	34.2	-34.9	7.7	0.3	49.08	-	-	68.2	-19.12	Vert
5**	10999.5	29.38	PK	38.4	-35.2	10.8	0.3	43.68	54	-10.32	74	-30.32	Vert

PK - Peak detector

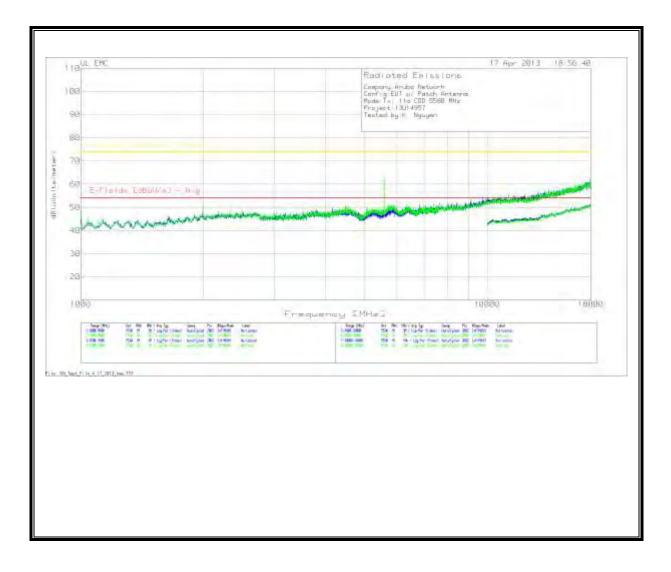
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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Mid Channel



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Project :13U14957 Company Name:Aruba Networks Config:EUT w/ Patch Antenna Mode:Tx; 11a CDD 5580 MHz

Test By:K. Nguyen

Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1995.252	42.33	PK	31.7	-34.7	8.1	0.1	47.53	-		68.2	-20.67	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
2*	1995.252	45.97	PK	31.7	-34.7	8.1	0.1	51.17	-	-	68.2	-17.03	Vert
3	2329.335	42.95	PK	32.4	-34.8	8.4	0.1	49.05	-	-	74	-24.95	Vert
	2329.335	31.71	VB1	32.4	-34.8	8.5	0.1	37.91	54	-16.09	-	-	Vert
4*	4477.261	41.45	РК	34.2	-35	10.3	0.3	51.25	-	-	68.2	-16.95	Vert
5*	6802.149	38.56	PK	35.7	-35.1	12	0.2	51.36	-		68.2	-16.84	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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<u>18-26 GHz</u>

105 RF Emissions 95 Order Number:13014957 85 Configuration:EUT with loptop 75 Paole Limit (dBuU/m) 75 Product	10.00	UL EMC	1 Oct 2013	21:84:2
99 Configure (bit (U) ut (t), type) 85 Peak L(n) (L (dbut/m)) 65 Aug L(n) (L (dbut/m)) 65 Aug L(n) (L (dbut/m)) 65 Aug L(n) (L (dbut/m)) 76 Prequency (GHz) 77 Predx L(n) (L (dbut/m)) 78 Prequency (GHz) 79 Aug L(n) (L (dbut/m)) 70 Aug L(n) (L (dbut/m)) 71 Aug 2013 75 Prequency (GHz) 76 Aug L(n) (L (dbut/m)) 76 Aug L(n) (L (dbut/m)) 77 Predx L(n) (L (dbut/m)) 78 Predx L(n) (L (dbut/m)) 79 Predx L(n) (L (dbut/m)) 70 Predx L(n) (L (dbut/m)) 75 Predx L(n) (L (dbut/m)) 76 Predx L(n) (L (dbut/m)) 77 Predx L(n) (L (dbut/m)) 78 Predx L(n) (L (dbut/m)) 79 Predx L(n) (L (dbut/m)) 79 Predx L(n) (L (dbut/m)) 79	85		RF Emissions	
75 Peak L(a)t (dBull/m) 65 Ang Liait (dBull/m) 65 Ang Liait (dBull/m) 65 Ang Liait (dBull/m) 65 Ang Liait (dBull/m) 75 Prequency (GHz) 76 Ang Liait (dBull/m) 76 Prequency (GHz) 76 Preduction (GHz) 77 Preduction (GHz) 78 Preduction (GHz) 79 Preduction (GHz) 75 Preduction (GHz) 76 Preduction (GHz) 77 Preduction (GHz) 78 Preduction (GHz) 79 Preduction (GHz) 75 Preduction (GHz) 76 Preduction (GHz) 77 Preduction (GHz) 78 Preduction (GHz) 79 Preduction (GHz) 79 Preduction (GHz) 70 Preduction (GHz) <	95			
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73 55 949 Limit (6800/m) 45 55 949 Limit (6800/m) 45 55 56 18 Frequency (GHz) 18 Frequency (GHz) 105 100 t 2013 25 100 t 2013 18 Frequency (GHz) 100 t 2013 Rev 9.5 1 101 100 t 2013 26 100 t 2013 27 100 t 2013 28 100 t 2013 29 100 t 2013 21 100 t 2013 25 100 t 2013 26 100 t 2013 27 100 t 2013 28 100 t 2013 29 100 t 2013 21 100 t 2013 <	85		Tested by / SN:K. Nguyen	
55 Ang Limit (dBuU/m) 45 Image (dB1 _ D2 = 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0	75	Peak L(m)t (dBuV/m)	ى مەربىيىلىكى بىرىكى ئىلىكى ئ ئىلىكى ئىلىكى	
55 Ang Limit (dBuU/m) 45 Image (Ms) 45 Image (Ms) 18 Frequency (GHz) 19 Image (Ms) 10 Image (Ms) 11 Image (Ms) 12 Image (Ms) 13 Frequency (GHz) 14 Image (Ms) 15 Image (Ms) 16 Image (Ms) 17 Image (Ms) 18 Image (Ms) 195 Image (M				
25 45 35 45 35 45 36 5 18 Frequency (GHz) 195 Frequency (GHz) 100t 2013 21:04: 95 Frequency (GHz)	60	and the standard standards		
35	55	Avg Limit (dBuU/m)		umatana
35	45			
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18 Frequency (GHz) 10000 (GHz) 1000 (GHz) 110000 (GHz) 1000 (GHz)	1.00			
Frequency (GHz) 110-29 100/2	15			
Frequency (GHz) 110-29 100/2	1	8		
GHz Test, TST 38915 23 Aug 2813 Rev 9.5 1 tical 1 Oct 2013 21:04: 185 RF Emissions 0rder Number (130) 4957 Order Number (130) 4957 56 Order Number (130) 4957 57 Pook Limit (dBuU/m) 55 Avg Limit (dBuU/m) 55 Avg Limit (dBuU/m) 56 Frequency (GHz)			Frequency (GHz)	
95 Order Number (130) 4957 85 Configuration:EUT with leptop 85 Fmack L(mit (dEuU/m)) 65 Fmack L(mit (dEuU/m))			Re	ny 0.5 12
95 Configuration:EUT with leptop 85 Mode ITa CDD 2TX \$588 MHz (Potch) 75 Fmak Limit (dEuU/m) 65 Fmak Limit (dEuU/m)	tica	al		
85 Tested by / SN:K. Nguyen 75 Pmok Limit (dBuU/m) 65 Avg Limit (dBuU/m) 45	tica	al	1 Oct 2013	
75 Prok L(mit (dEuU/m)) 65	tic:	al UL EMC	RF Emissions	
65 55 Avg Limit (dBuU/m) 45 35 45 35 15 18 Frequency (GHz)	tic: 185 95	al UL EMC	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with Taptop Mode: 113 CDD 27X 5580 MHz (Potch)	
55 Avg Limit (dBuUU/m) 45 35 45 35 15 18 Frequency (GHz)	tic: 185 95	al ul EMC	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with Taptop Mode: 113 CDD 27X 5580 MHz (Potch)	
45 45 35 25 15 18 Frequency (GHz)	105 95 85	al ul EMC	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with Taptop Mode: 113 CDD 27X 5580 MHz (Potch)	
45 45 35 25 15 18 Frequency (GHz)	95 95 75	al UL EMC Prak L(mit (dBuU/m)	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with Taptop Mode: 113 CDD 27X 5580 MHz (Potch)	
35 25 15 18 Frequency (GHz)	105 95 85 75 65	al UL EMC Prok L(mit (dEuU/m)	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with Taptop Mode: 113 CDD 27X 5580 MHz (Potch)	
25 15 18 Frequency (GHz)	105 95 85 75 65	al UL EMC Prok L(mit (dEuU/m)	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with Taptop Mode: 113 CDD 27X 5580 MHz (Potch)	
25 15 18 Frequency (GHz)	tic: 95 95 65 55	al UL EMC Pnak Limit (dEuV/m) Avg Limit (dEuV/m)	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with Taptop Mode: 113 CDD 27X 5580 MHz (Potch)	
15 18 Frequency (GHz)	tica 95 95 65 55 45	al UL EMC Paak Limit (dEuUrm) Avg Limit (dEuUrm)	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with Taptop Mode: 113 CDD 27X 5580 MHz (Potch)	
18 Frequency (GHz)	tic: 95 95 65 55 45 35	al UL EMC Prode Limit (dBuU/m) Avg Limit (dBuU/m) Avg Limit (dBuU/m)	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with Taptop Mode: 113 CDD 27X 5580 MHz (Potch)	ev 9.5 12 21:04:2
Frequency (GHz)	tic: 95 95 65 55 45 35	al UL EMC Prode Limit (dBuU/m) Avg Limit (dBuU/m) Avg Limit (dBuU/m)	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with Taptop Mode: 113 CDD 27X 5580 MHz (Potch)	
Frequency (GHz)	tic: 105 95 65 55 45 35 25	al UL EMC Prode Limit (dBuU/m) Avg Limit (dBuU/m)	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with laptop Mode I1a CDD 21X 5580 MHz (Potok) Tested by / SN:K. Nguyen	21:04:2
	tica 95 95 55 55 35 25 15	al UL EMC Prode Limit (dBuU/m) Avg Limit (dBuU/m)	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with laptop Mode I1a CDD 21X 5580 MHz (Potok) Tested by / SN:K. Nguyen	21:04:2
	tica 95 95 55 55 35 25 15	al UL EMC Prode Limit (dBuU/m) Avg Limit (dBuU/m)	1 Oct 2013 RF Emissions Order Number (13014957 Configuration:EUT with laptop Mode I1s COD 27X 5588 MHz (Potsk) Tested by / SN:K. Nguyen	21:04:2

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_	Trace Ma	arkers										
	Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Avg Margin (dB)	Peak Limit (dBuV/m)	•
ĺ	1	23.888	42.37	РК	33.5	-22.7	-9.5	43.67	54	-10.33	74	-30.33
	4	25.454	41.87	РК	33.8	-22.5	-9.5	43.67	54	-10.33	74	-30.33
	2	23.948	43.33	РК	33.3	-22.8	-9.5	44.33	54	-9.67	74	-29.67
ſ	3	25.46	42.37	РК	33.8	-22.5	-9.5	44.17	54	-9.83	74	-29.83

PK - Peak detector

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<u>26-40 GHz</u>

1000	UL EMC		1 Oct 2013 20:59:8
185	UL EMC	RF Em	issions
95			umber:13014957
90		Configu	ration:EUT with laptop
85		Hode II Tested	ration:EUT with laptap a CDD 2TX 5580 MHz (Patch) by / SN:K. Nguymn
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75	Pepk Limit (dBuU/m)		
65			
	Avg Limit CeBuU/m?		
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tica	Test, TST 38915 2 Aug 2813 al UL EMC	RF Em	
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tic: 185 95 85	al uL EMC Perah, L (mi t, (dBuU/m)	Order N	1 Oct 2013 20:59:0 issions umber (13014957
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tic: 185 95 85 75 65 55	al UL EMC Perah L (with (dBuU/m) Avg Limit (dBuU/m)	Order N	1 Oct 2013 20:59:0 issions umber (13014957
tic: 185 95 85 75 65	al UL EMC Perah L (with (dBuU/m) Avg Limit (dBuU/m)	Order N	1 Oct 2013 20:59:0 issions umber (13014957
tic: 185 95 85 75 55 45	al UL EMC Peak, Limit (dBuliém) Avg. Limit (dBuliém)	Order N	1 Oct 2013 20:59:0 issions umber (13014957
tic: 185 95 85 75 55 45	al UL EMC Perah, L.(mitt (dBuU/m) Avg. Limitt (dBuU/m)	Order N Configu Hode (1 Teated	1 Oct 2013 20:59;E issions umber:13014957 nation:EUT with laptop o CDD 2TX 5580 MHz (Patch) by / SN:K. Nguyen
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tic: 185 95 85 75 55 45 35	al UL EMC Persit Limit (dBullim) Avg Limit (dBullim) Avg Limit (dBullim) model - John John John John John John John John	Order N Configu Hode (1 Teated	1 Oct 2013 20:59:0 issions umber:13014957 ration:EUT with laptop o CDD 2TX 5580 MHz (Patch) by / SN:K. Nguyen
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tic: 95 95 85 75 65 55 45 35 25	al UL EMC Perath Limit (dBuliém) Avg. Limit (dBuliém) Avg. Limit (dBuliém)	Order N Configu Hode (1 Teated	1 Oct 2013 20:59;E issions umber:13014957 nation:EUT with laptop o CDD 2TX 5580 MHz (Patch) by / SN:K. Nguyen
tic: 185 95 85 55 45 35 25 15	al UL EMC Perath Limit (dBuliém) Avg. Limit (dBuliém) Avg. Limit (dBuliém)	Order N Configu Hode (1 Teated	1 Oct 2013 20:59;E issions umber:13014957 nation:EUT with laptop o CDD 2TX 5580 MHz (Patch) by / SN:K. Nguyen
tic: 185 95 85 55 45 35 25 15	al UL EMC Perch, Limit (dBuU/m) Avg. Limit (dBuU/m) Avg. Limit (dBuU/m)	Frequency (GHz)	1 Oct 2013 20:59;E issions umber:13U14957 ration:EUT with laptop o CDD 2TX 5580 MHz (Potch) by 7 SN:K. Nguyen
tic: 185 95 85 55 45 35 25 15	al UL EMC Perch, Limit (dBuU/m) Avg. Limit (dBuU/m) Avg. Limit (dBuU/m)	Order N Conf (gu Hode () Tested	1 Oct 2013 20:59;E issions umber:13014957 ration:EUT with laptop o CDD 21X 5580 MHz (Patch) by / SN:K. Nguyen

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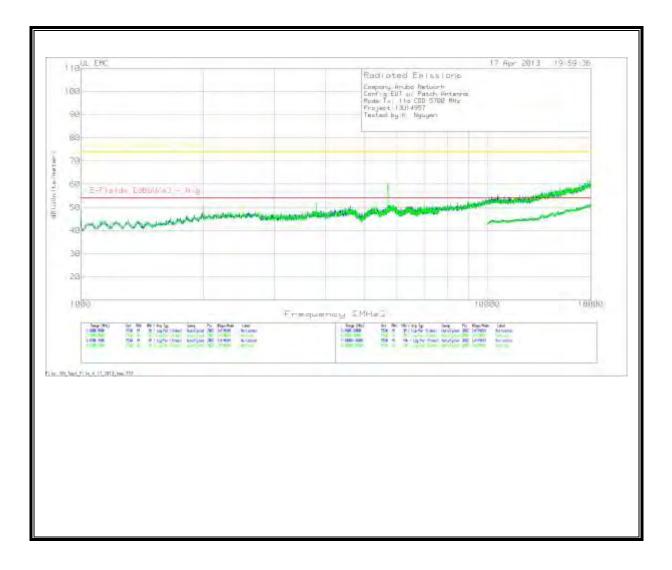
Trace Ma	arkers										
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	0 0	Peak Limit (dBuV/m)	PK Margin (dB)
1	28.774	46.27	РК	35.7	-34.8	-9.5	37.67	54	-16.33	74	-36.33
2	39.262	47.63	РК	38.6	-36.4	-9.5	40.33	54	-13.67	74	-33.67
3	27.903	45.63	РК	35.8	-34.6	-9.5	37.33	54	-16.67	74	-36.67
4	36.978	50.23	РК	37.2	-37.6	-9.5	40.33	54	-13.67	74	-33.67

PK - Peak detector

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High Channel



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Project :13U14957 Company Name:Aruba Networks Config:EUT w/ Patch Antenna Mode:Tx; 11a CDD 5700 MHz

Test By:K. Nguyen

Horizontal													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1993.503	42.44	PK	31.7	-34.7	8.1	0.1	47.64	-	-	68.2	-20.56	Horz
Vertical													
	Test	Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
2*	2000.5	45.53	РК	31.7	-34.7	8.1	0.1	50.73	-	-	68.2	-17.47	Vert
3	3802.099	43.18	PK	33.8	-35	9.8	0.2	51.98	-	-	74	-22.02	Vert
	3802.099	39.22	VB1	33.8	-35	9.8	0.2	48.02	54	-5.98	-	-	Vert
4*	7006.647	38.67	РК	35.9	-35.3	12.2	0.1	51.57	-	-	68.2	-16.63	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

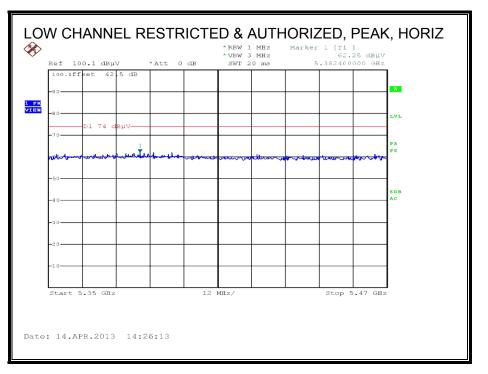
* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

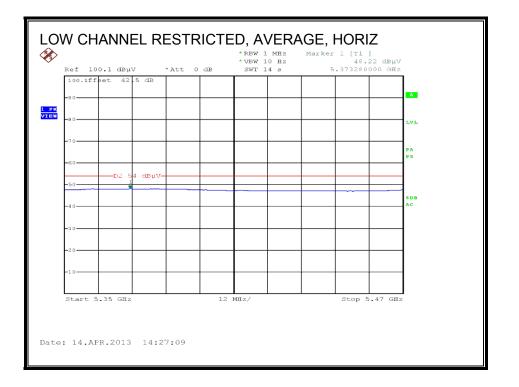
** Denotes a peak measurement that satisfies both peak and average emission limits.

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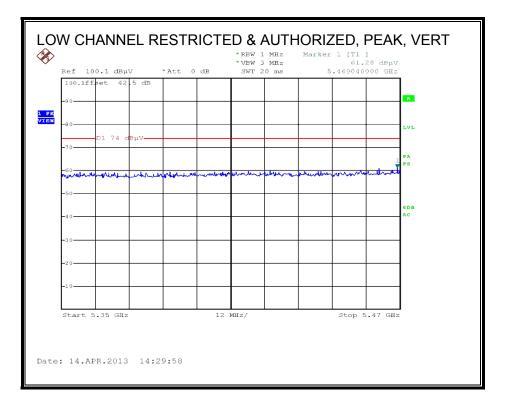
10.3.5. TX ABOVE 1 GHz 802.11n HT20 STBC MODE IN THE 5.6 GHz BAND

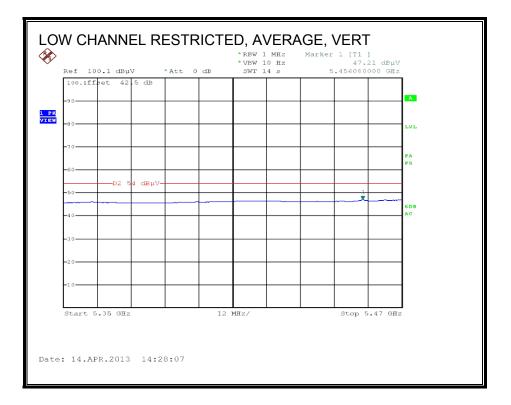
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)





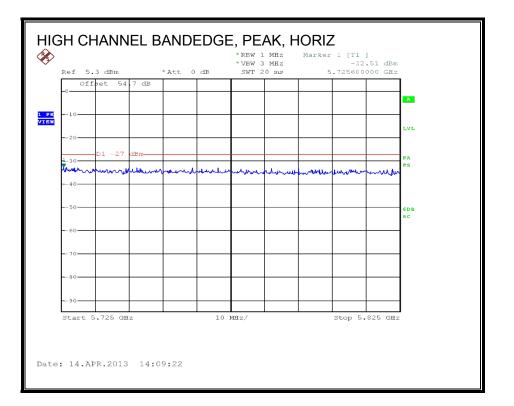
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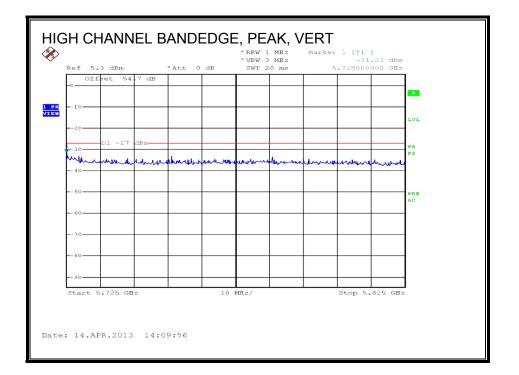




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AUTHORIZED BANDEDGE (HIGH CHANNEL)

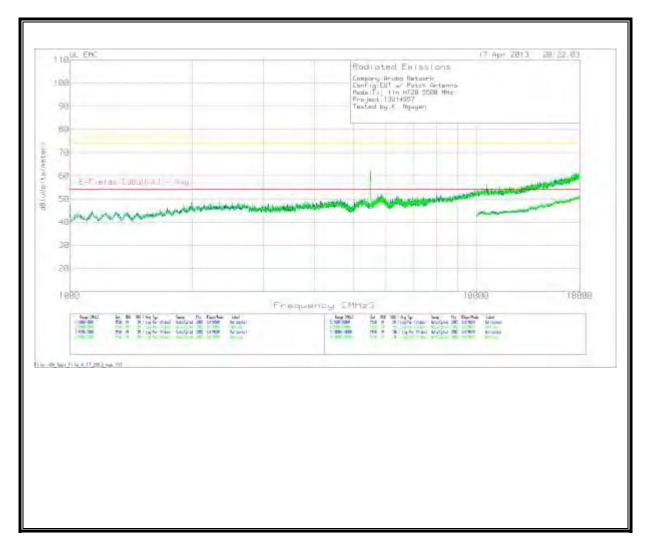




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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Project :13U14957

Company Name:Aruba Networks Config:EUT w/ Patch Antenna Mode:Tx; 11n HT20 STBC 5500 MHz

Test By:K. Nguyen

Horizontal

Horizontal													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	i i
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1738.131	42.96	РК	29.9	-34.7	7.8	0.1	46.06	-	-	68.2	-22.14	Horz
2*	2976.512	38.98	PK	33.1	-35	9.2	0.2	46.48	-	-	68.2	-21.72	Horz
3*	5863.318	38.7	РК	35.5	-34.9	11.4	1	51.7	-	-	68.2	-16.5	Horz
Vertical													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	1
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
4*	1997.001	43.87	РК	31.7	-34.7	8.1	0.1	49.07	-	-	68.2	-19.13	Vert
5*	5823 038	39.68	DK.	35.4	-34.9	11 /	1	52 58	-	-	68.2	-15.62	Vert

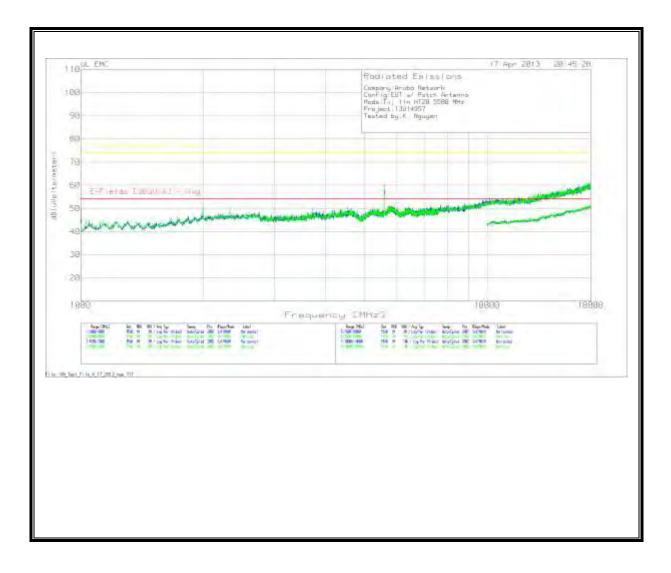
PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

Mid Channel



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Project :13U14957

Company Name:Aruba Networks Config:EUT w/ Patch Antenna Mode:Tx; 11n HT20 STBC 5580 MHz

Test By:K. Nguyen

...

Horizontal													
		Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
4	7677.961	37.99	PK	36	-35.5	12.6	0.6	51.69	-	-	74	-22.31	Horz
4A	7677.961	26.45	VB1	36.1	-35.5	12.5	0.5	40.05	54	-13.95	-	-	Horz
/ertical													
		Meter		T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
1**	1666.417	43.85	PK	29.4	-34.8	7.7	0.1	46.25	54	-7.75	74	-27.75	Vert
2*	1993.503	46.5	PK	31.7	-34.7	8.1	0.1	51.7	-	-	68.2	-16.5	Vert
3	2327.586	43.43	PK	32.4	-34.8	8.4	0.1	49.53	-	-	74	-24.47	Vert
3A	2327.586	30.82	VB1	32.4	-34.8	8.4	0.1	36.92	54	-17.08	-	-	Vert
5	7494.653	38.11	PK	35.9	-35.4	12.5	0.2	51.31	-	-	74	-22.69	Vert
5A	7494.653	26.05	VB1	35.9	-35.4	12.5	0.2	39.25	54	-14.75			Vert

PK - Peak detector

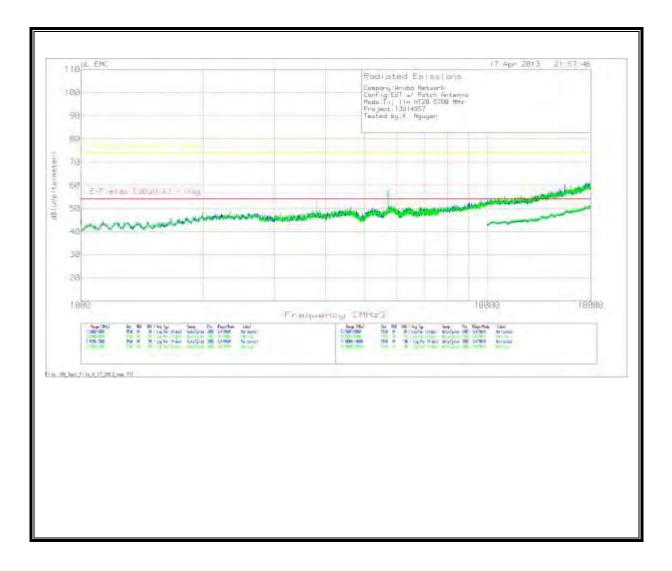
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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High Channel



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Project :13U14957

Company Name:Aruba Networks Config:EUT w/ Patch Antenna

Mode:Tx; 11n HT20 STBC 5700 MHz Test By:K. Nguyen

Horizontal

Horizontal													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1991.754	41.96	РК	31.6	-34.7	8.1	0.1	47.06	-	-	68.2	-21.14	Horz
2	7631.184	35.45	РК	36	-35.3	12.5	0.3	48.95	-	-	74	-25.05	Horz
	7631.184	26.38	VB1	36	-35.4	12.5	0.4	39.88	54	-14.12	-	-	Horz
Vertical						-							
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
3*	1997.876	43.84	РК	31.7	-34.7	8.1	0.1	49.04	-	-	68.2	-19.16	Vert
4	3800.35	44.24	РК	33.8	-35	9.8	0.2	53.04	-	-	74	-20.96	Vert
	3800.35	38.04	VB1	33.8	-35	9.8	0.2	46.84	54	-7.16	-	-	Vert
5*	4480.76	41.38	РК	34.2	-35	10.3	0.3	51.18	-	-	68.2	-17.02	Vert
				54.2	55			51.10					

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

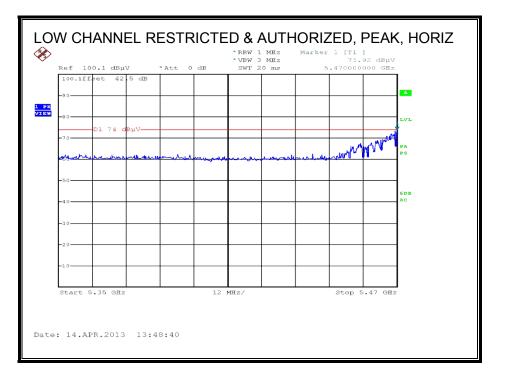
* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

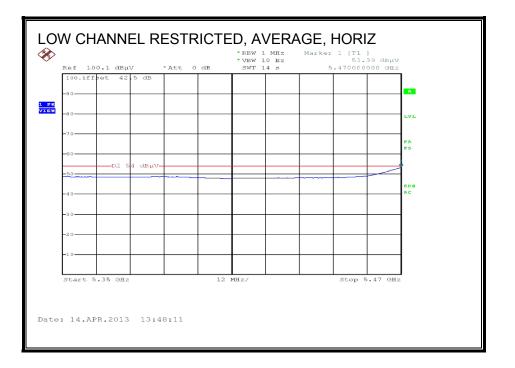
** Denotes a peak measurement that satisfies both peak and average emission limits.

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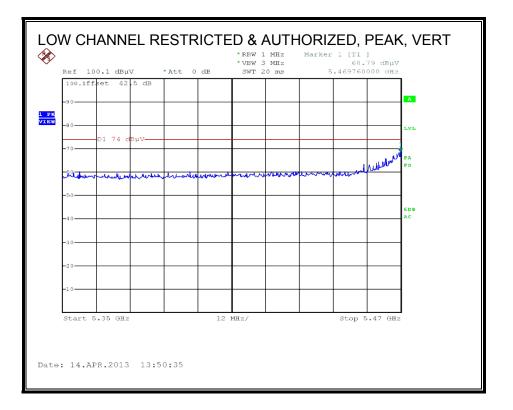
10.3.6. TX ABOVE 1 GHz 802.11n HT40 STBC MODE IN THE 5.6 GHz BAND

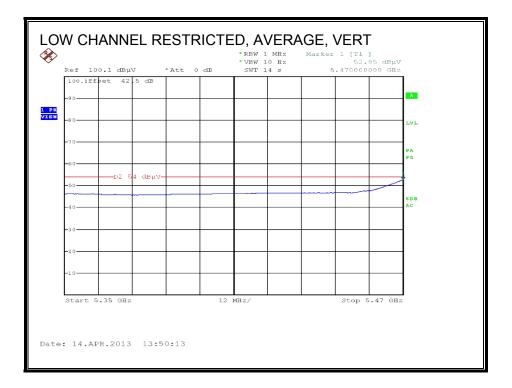
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)





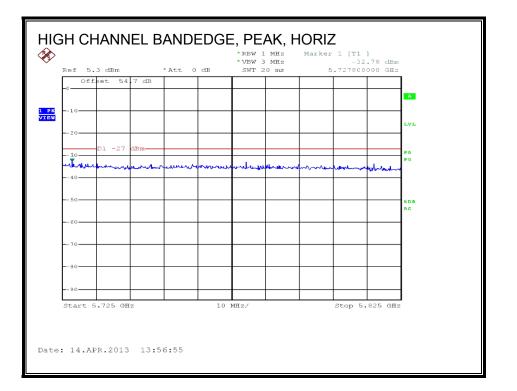
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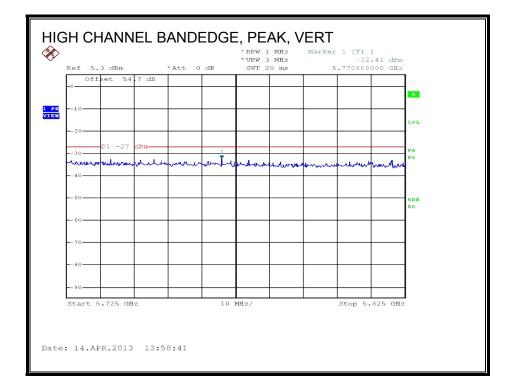




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AUTHORIZED BANDEDGE (HIGH CHANNEL)

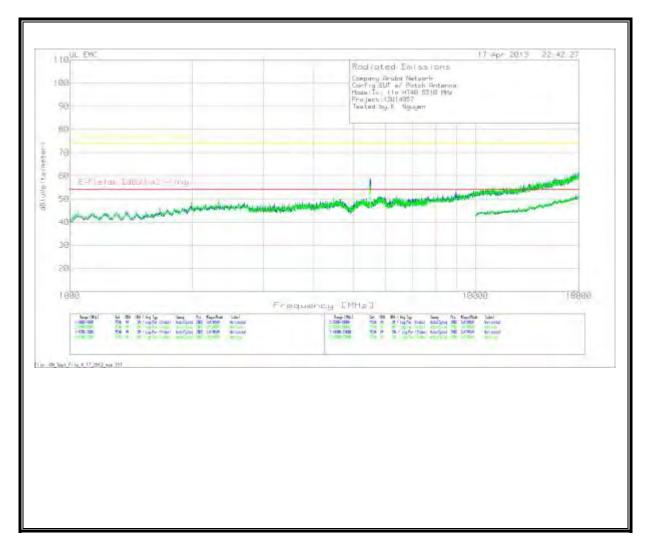




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HARMONICS AND SPURIOUS EMISSIONS

Low Channel



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Project :13U14957

Company Name:Aruba Networks Config:EUT w/ Patch Antenna

Mode:Tx; 11n HT40 STBC 5510 MHz Test By:K. Nguyen

Horizontal

Horizontal													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1991.754	42.88	РК	31.6	-34.7	8.1	0.1	47.98	-	-	68.2	-20.22	Horz
2*	8951.324	38.47	PK	36.6	-35.5	13.6	0.4	53.57	-	-	68.2	-14.63	Horz
Vertical													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
3*	1997.001	43.96	РК	31.7	-34.7	8.1	0.1	49.16	-	-	68.2	-19.04	Vert
4	2331.084	44.03	РК	32.4	-34.8	8.4	0.1	50.13	-	-	74	-23.87	Vert
4A	2331.084	32.16	VB1	32.4	-34.8	8.4	0.1	38.26	54	-15.74	-	-	Vert
5*	4466.767	41.17	РК	34.2	-34.9	10.4	0.3	51.17	-	-	68.2	-17.03	Vert
6*	7164.668	38.59	PK	35.9	-35.3	12.3	0.1	51.59	-	-	68.2	-16.61	Vert

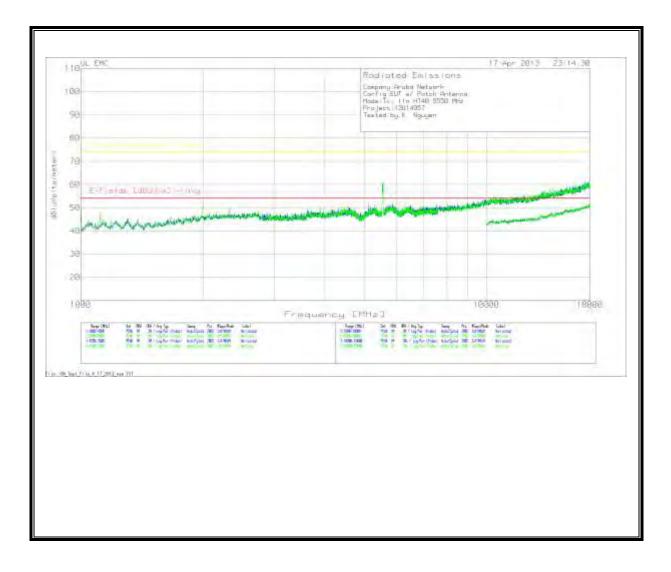
PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

Mid Channel



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Project :13U14957

Company Name:Aruba Networks Config:EUT w/ Patch Antenna

Mode:Tx; 11n HT40 STBC 5510 MHz Test By:K. Nguyen

Horizontal

Horizontai													
	Test Frequency	Meter Reading		T345 Ant Factor	T145 Preamp	Cable Factor	T159 BRF	Corrected Reading	E-Fields [dBuV/m] - Avg	Avg Margin	E-Fields [dBuV/m] -	Peak Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
1*	1743.378	41.88	РК	30	-34.7	7.9	0.1	45.18	-	-	68.2	-23.02	Horz
2*	3035.982	39.57	PK	33.1	-35.2	9.2	0.1	46.77	-	-	68.2	-21.43	Horz
Vertical													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
3	1118.941	48.38	РК	28.1	-35.6	7.1	0.1	48.08	-	-	74	-25.92	Vert
	1118.941	30.74	VB1	28.2	-35.5	7	0.1	30.54	54	-23.46	-	-	Vert
4**	1187.156	46.07	РК	28.4	-35.4	7.1	0.1	46.27	54	-7.73	74	-27.73	Vert
5*	1993.503	45.38	РК	31.7	-34.7	8.1	0.1	50.58	-	-	68.2	-17.62	Vert
6	2325.837	44.01	РК	32.4	-34.8	8.4	0.1	50.11	-	-	74	-23.89	Vert
	2325.837	30.7	VB1	32.4	-34.8	8.5	0.1	36.9	54	-17.1	-	-	Vert
7*	4466.767	40.63	PK	34.2	-34.9	10.4	0.3	50.63	-	-	68.2	-17.57	Vert

PK - Peak detector

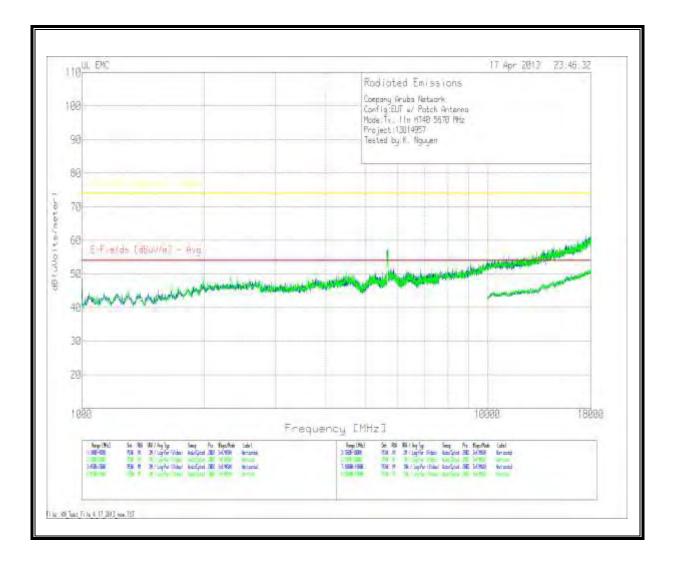
VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

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High Channel



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Project :13U14957

Company Name:Aruba Networks Config:EUT w/ Patch Antenna

Mode:Tx; 11n HT40 5670 MHz Test By:K. Nguyen

Horizontal

Horizontal													
	Test Frequency	Meter Reading		T345 Ant Factor	T145 Preamp	Cable Factor	T159 BRF	Corrected Reading	E-Fields [dBuV/m] - Avg	Avg Margin	E-Fields [dBuV/m] -	Peak Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
1*	2605.697	41.08	PK	32.6	-34.8	8.8	0.1	47.78	-	-	68.2	-20.42	Horz
11	9107.246	37.79	PK	36.8	-35.6	13.7	0.1	52.79	-	-	74	-21.21	Horz
11A	9107.246	26.02	VB1	36.8	-35.6	13.8	0.2	41.22	54	-12.78	-	-	Horz
Vertical													
				T345 Ant	T145	Cable		Corrected	E-Fields	Avg	E-Fields	Peak	
	Test Frequency	Meter Reading		Factor	Preamp	Factor	T159 BRF	Reading	[dBuV/m] - Avg	Margin	[dBuV/m] -	Margin	
Marker No.	[MHz]	[dBuV]	Detector	[dB/m]	Gain [dB]	[dB]	[dB]	[dBuV]	Limit	[dB]	Peak Limit	[dB]	Polarity
2**	1664.668	44.27	PK	29.4	-34.8	7.7	0.1	46.67	54	-7.33	74	-27.33	Vert
3*	1997.001	44.08	PK	31.7	-34.7	8.1	0.1	49.28	-	-	68.2	-18.92	Vert
5*	2413.293	43.19	PK	32.4	-34.7	8.5	0.1	49.49	-	-	68.2	-18.71	Vert
6	3781.109	42.28	PK	33.8	-35	9.7	0.1	50.88	-	-	74	-23.12	Vert
6A	3781.109	32.83	VB1	33.8	-34.9	9.7	0.1	41.53	54	-12.47	-	-	Vert
7*	4489.505	41.4	PK	34.2	-35	10.3	0.3	51.2	-	-	68.2	-17	Vert
8*	6831.584	39.06	PK	35.8	-35.1	12.1	0.1	51.96	-	-	68.2	-16.24	Vert
9	7301	38.76	PK	35.9	-35.4	12.4	0.1	51.76	-	-	74	-22.24	Vert
9A	7301	26.18	VB1	35.9	-35.4	12.4	0.1	39.18	54	-14.82	-	-	Vert
10	9086.457	38.45	РК	36.8	-35.6	13.7	0.3	53.65	-	-	74	-20.35	Vert
10A	9096.457	26.14	VB1	36.8	-35.6	13.8	0.3	41.44	54	-12.56	-	-	Vert

PK - Peak detector

VB1 - KDB 789033 Method: VB Alternative Reduced Video

* Denotes an emission that falls outside of the restricted bands and is subject to a peak emission limit of 68.2 dBuV (-27dBm).

** Denotes a peak measurement that satisfies both peak and average emission limits.

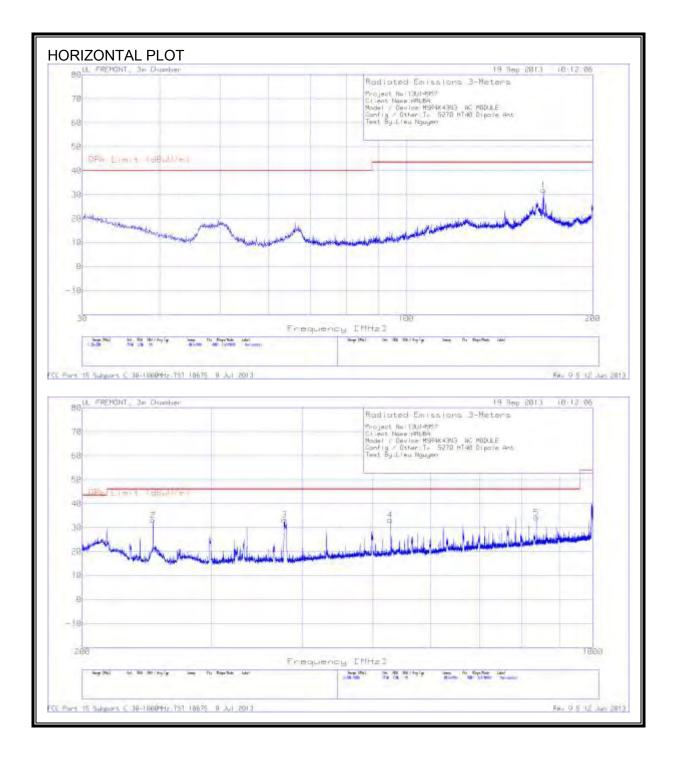
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10.4. WORST-CASE BELOW 1 GHz (DIPOLE ANTENNA)

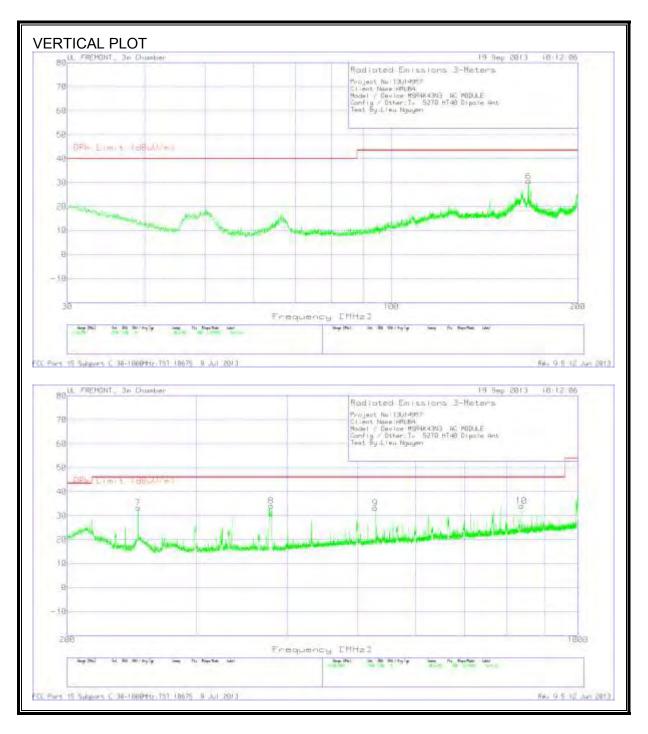
10.4.1. AC UNIT

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



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SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



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HORIZONTAL & VERTICAL DATA (DIPOLE ANTENNA)

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)
1	166.595	46.35	РК	11.7	-26.2	31.85	43.52	-11.67
6	166.51	45.09	РК	11.7	-26.2	30.59	43.52	-12.93
2	250	47.01	РК	11.5	-25.4	33.11	46.02	-12.91
3	377.9	43.85	РК	15	-25.5	33.35	46.02	-12.67
4	528	41.05	РК	17.9	-25.8	33.15	46.02	-12.87
5	837	36.71	РК	21.7	-24.2	34.21	46.02	-11.81
7	250	47.16	РК	11.5	-25.4	33.26	46.02	-12.76
8	380.1	44.58	РК	15	-25.5	34.08	46.02	-11.94
9	528	41.06	РК	17.9	-25.8	33.16	46.02	-12.86
10	837	36.55	РК	21.7	-24.2	34.05	46.02	-11.97

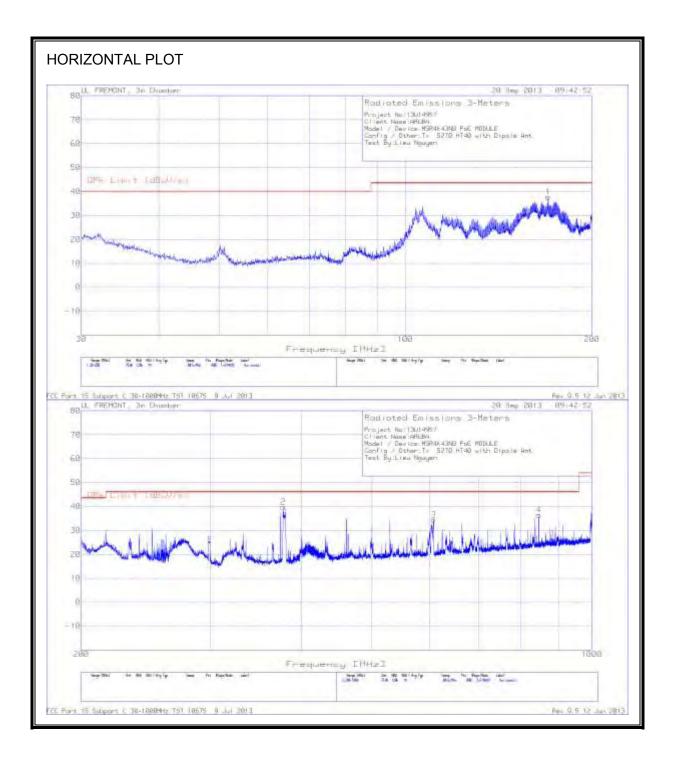
PK - Peak detector

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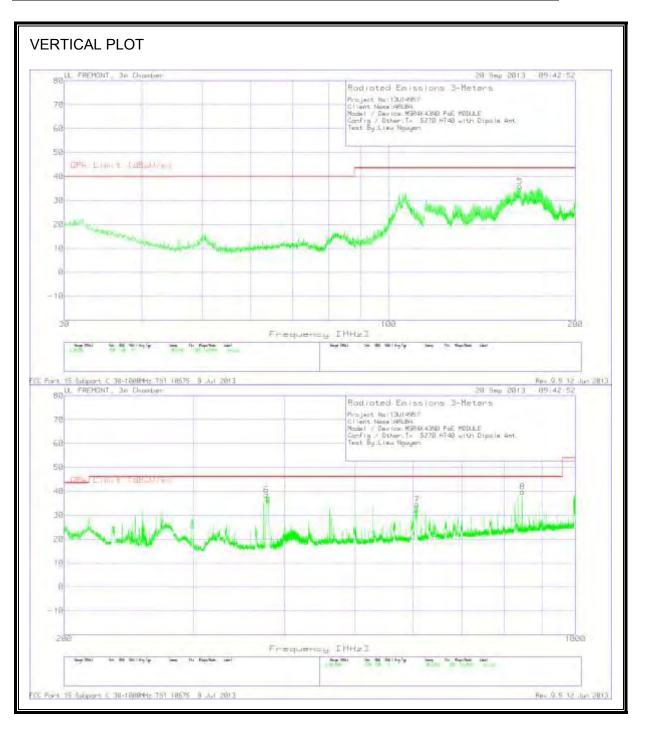
10.4.2. PoE UNIT

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



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SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



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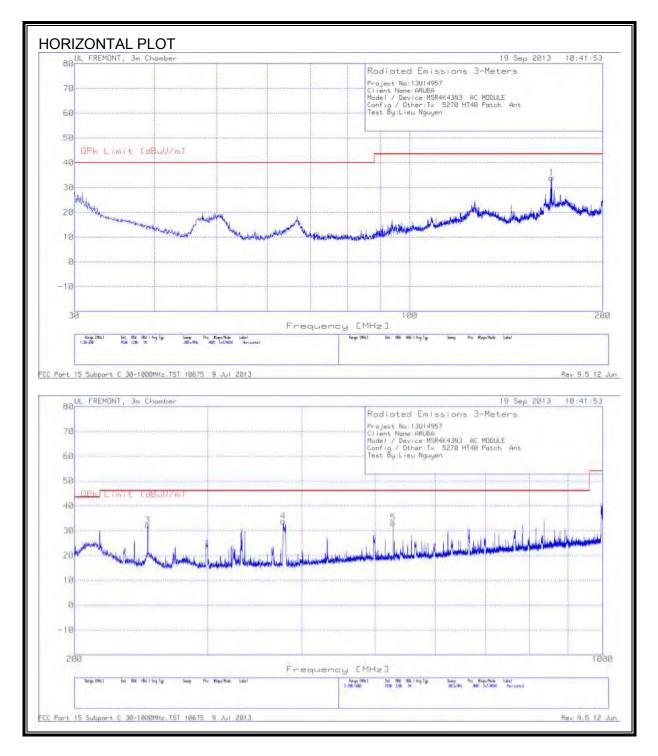
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)
1	169.9525	52.51	РК	11.5	-26.2	37.81	43.52	-5.71
5	162.8975	50.07	РК	12	-26.2	35.87	43.52	-7.65
2	377.9	50.34	РК	15	-25.5	39.84	46.02	-6.18
3	607.2	41.34	РК	18.6	-25.5	34.44	46.02	-11.58
4	845.9	38.95	РК	21.6	-24	36.55	46.02	-9.47
6	378	49.13	РК	15	-25.5	38.63	46.02	-7.39
7	607.1	41.43	РК	18.6	-25.5	34.53	46.02	-11.49
8	846.3	42.24	РК	21.6	-24	39.84	46.02	-6.18
Radiated Frequency (MHz)	d Emissio Meter Reading (dBuV)	ns Det	AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
169.9919	43.5	Av	11.5	-26.2	28.8	43.52	-14.72	206
1 - 4	age log dete	ection						
Lgav - aver Av - averag								

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10.5. WORST-CASE BELOW 1 GHz (PATCH ANTENNA)

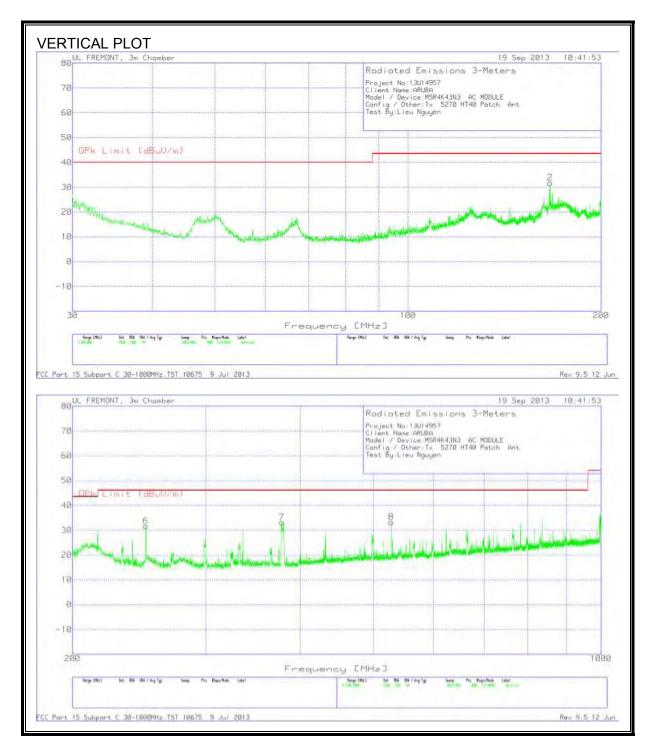
10.5.1. AC UNIT

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



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SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



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HORIZONTAL & VERTICAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)
1	166.51	48.34	РК	11.7	-26.2	33.84	43.52	-9.68
2	166.5525	46.26	РК	11.7	-26.2	31.76	43.52	-11.76
3	250	46.15	РК	11.5	-25.4	32.25	46.02	-13.77
4	377.9	44.29	РК	15	-25.5	33.79	46.02	-12.23
5	528	41.12	РК	17.9	-25.8	33.22	46.02	-12.8
6	250	45.61	РК	11.5	-25.4	31.71	46.02	-14.31
7	378.2	43.72	РК	15	-25.5	33.22	46.02	-12.8
8	528	41.17	РК	17.9	-25.8	33.27	46.02	-12.75

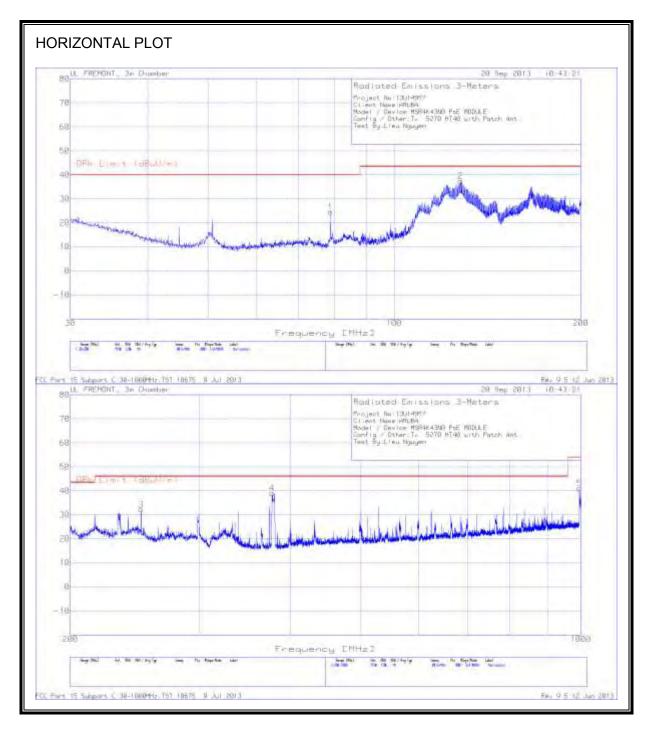
PK - Peak detector

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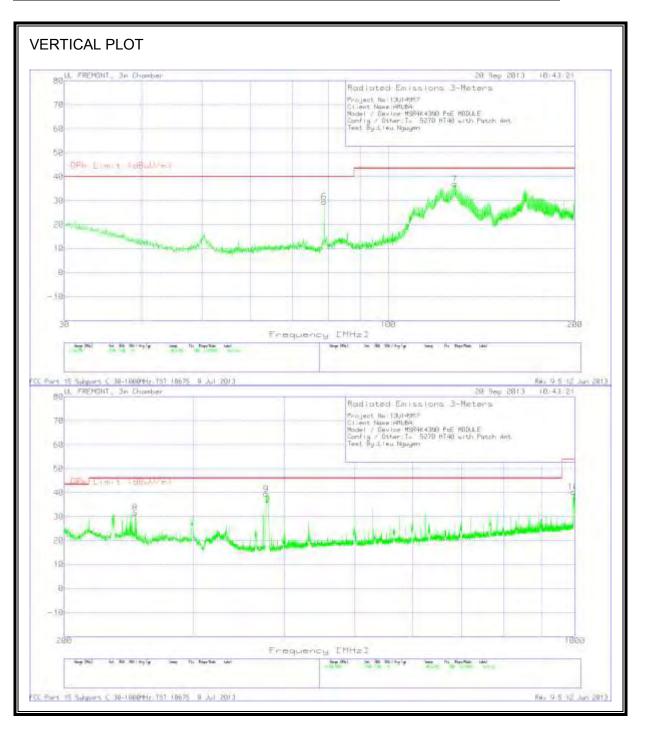
10.5.2. POE MODULE PATCH ANTENNA

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



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SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



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Trace Ma	arkers							
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	-	Margin (dB)
1	78.9175	43.75	РК	7.8	-27	24.55	40	-15.45
2	128.005	49.86	РК	14.2	-26.6	37.46	43.52	-6.06
6	78.79	48.71	РК	7.8	-27	29.51	40	-10.49
7	128.005	49.32	РК	14.2	-26.6	36.92	43.52	-6.6
3	250	46.06	РК	11.5	-25.4	32.16	46.02	-13.86
4	377.9	49.52	РК	15	-25.5	39.02	46.02	-7
5	995.4	41.14	РК	23.1	-23.2	41.04	53.97	-12.93
8	250	45.48	РК	11.5	-25.4	31.58	46.02	-14.44
9	377.9	49.88	РК	15	-25.5	39.38	46.02	-6.64
10	995.5	40.4	РК	23.1	-23.2	40.3	53.97	-13.67

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11. AC POWER LINE CONDUCTED EMISSIONS

<u>LIMITS</u>

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted I	Limit (dBuV)
	Quasi-peak	Average
0.15-0.5	66 to 56 °	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

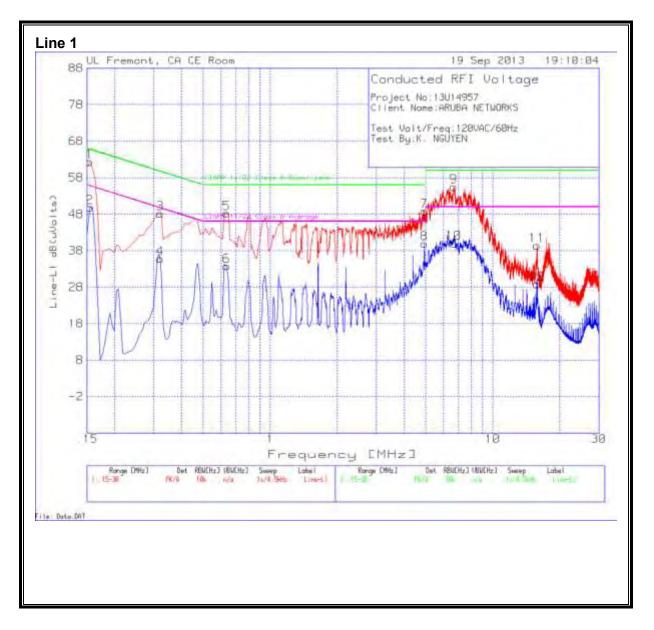
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

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11.1. AC MODEL RESULTS

LINE 1 RESULTS



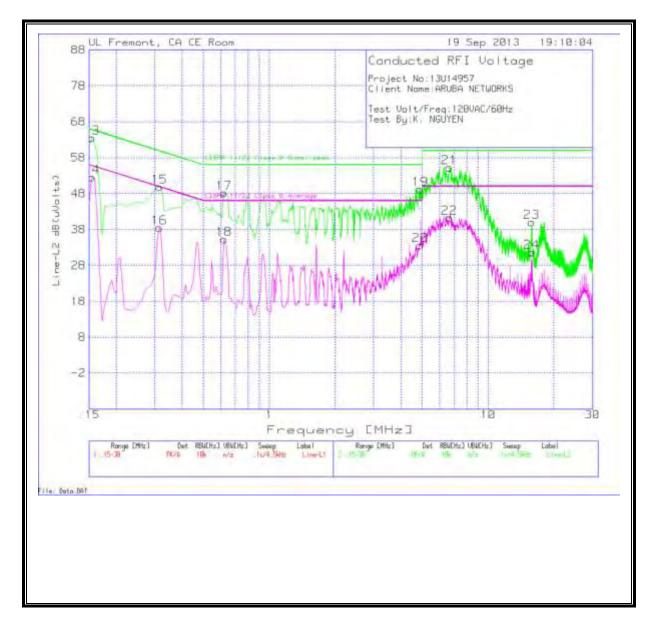
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race wia	arkers									
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dB(uVolts)	CISPR 11/22 Class B Quasi- peak	Margin to Limit (dB)	CISPR 11/22 Class B Average	Margin to Limit (dB)
1	0.1545	62.23	PK	0.1	0	62.33	65.8	-3.47	-	-
2	0.1545	49.69	Av	0.1	0	49.79	-	-	55.8	-6.01
3	0.321	48.03	PK	0.1	0	48.13	59.7	-11.57	-	-
4	0.321	35.66	Av	0.1	0	35.76	-	-	49.7	-13.94
5	0.636	48.12	РК	0.1	0	48.22	56	-7.78	-	-
6	0.636	33.68	Av	0.1	0	33.78	-	-	46	-12.22
7	4.929	48.62	РК	0.1	0.1	48.82	56	-7.18	-	-
8	4.929	39.76	Av	0.1	0.1	39.96	-	-	46	-6.04
9	6.666	55.36	РК	0.1	0.1	55.56	60	-4.44	-	-
10	6.666	39.81	Av	0.1	0.1	40.01	-	-	50	-9.99
11	15.81	38.95	РК	0.2	0.2	39.35	60	-20.65	<u> </u>	-
12	15.81	28.48	Av	0.2	0.2	28.88	-	-	50	-21.12

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LINE 2 RESULTS



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Line-L	2 .15 - 3	0MHz								
Trace Ma Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dB(uVolts)	CISPR 11/22 Class B Quasi- peak	Margin to Limit (dB)	CISPR 11/22 Class B Average	Margin to Limit (dB)
13	0.1545	63.37	РК	0.1	0	63.47	65.8	-2.33	-	-
14	0.1545	52.45	Av	0.1	0	52.55	-	-	55.8	-3.25
15	0.31425	49.75	РК	0.1	0	49.85	59.9	-10.05	-	-
16	0.31425	38.35	Av	0.1	0	38.45	-	-	49.9	-11.45
17	0.6225	48.08	РК	0.1	0	48.18	56	-7.82	-	-
18	0.6225	35.17	Av	0.1	0	35.27	-	-	46	-10.73
19	4.8885	48.96	РК	0.1	0.1	49.16	56	-6.84	-	-
20	4.8885	33.45	Av	0.1	0.1	33.65	-	-	46	-12.35
21	6.6525	55.1	РК	0.1	0.1	55.3	60	-4.7	-	-
22	6.6525	41.04	Av	0.1	0.1	41.24	-	-	50	-8.76
23	15.801	39.59	РК	0.2	0.2	39.99	60	-20.01	-	-
24	15.801	31.3	Av	0.2	0.2	31.7	-	-	50	-18.3

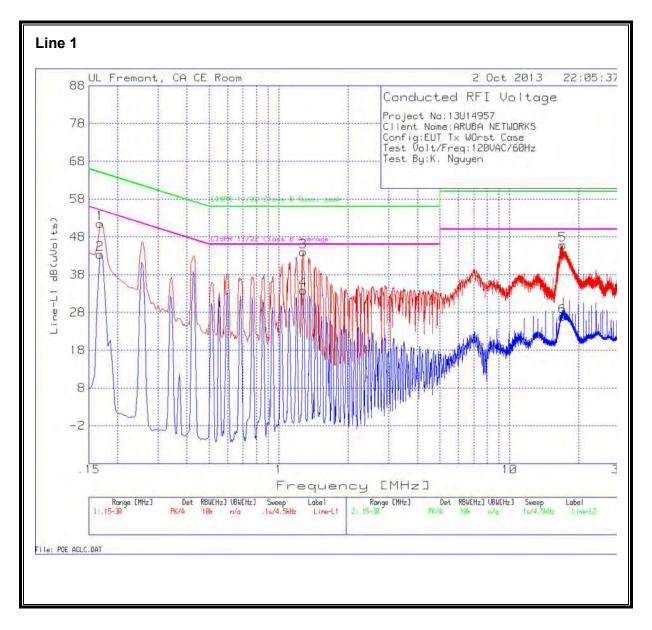
PK - Peak detector

Av - average detection

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11.2. POE MODEL RESULTS

LINE 1 RESULTS



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	-ine-L1 .15 - 30MHz Trace Markers											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dB(uVolts)	CISPR 11/22 Class B Quasi- peak	Margin to Limit (dB)	CISPR 11/22 Class B Average	Margin to Limit (dB)		
1	0.168	51.44	РК	0.1	0	51.54	65.1	-13.56	-	-		
2	0.168	43.3	Av	0.1	0	43.4	-	-	55.1	-11.7		
3	1.275	43.8	РК	0.1	0.1	44	56	-12	-	-		
4	1.275	33.66	Av	0.1	0.1	33.86	-	-	46	-12.14		
5	17.0115	45.41	РК	0.2	0.2	45.81	60	-14.19	-	-		
6	17.0115	26.43	Av	0.2	0.2	26.83	-	-	50	-23.17		

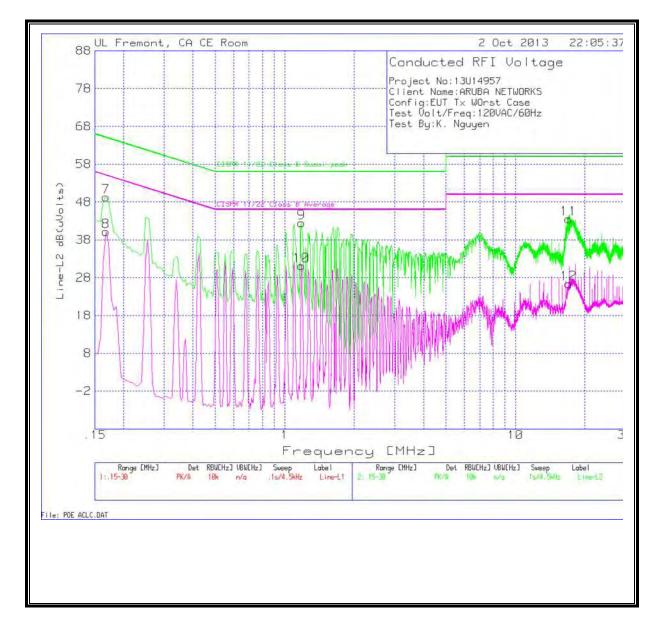
PK - Peak detector

Av - average detection

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LINE 2 RESULTS



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	-ine-L2 .15 - 30MHz race Markers											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dB(uVolts)	CISPR 11/22 Class B Quasi- peak	Margin to Limit (dB)	CISPR 11/22 Class B Average	Margin to Limit (dB)		
7	0.168	49.19	РК	0.1	0	49.29	65.1	-15.81	-	-		
8	0.168	40.07	Av	0.1	0	40.17	-	-	55.1	-14.93		
9	1.1805	42.43	РК	0.1	0	42.53	56	-13.47	-	-		
10	1.1805	31	Av	0.1	0	31.1	-	-	46	-14.9		
11	17.0115	43.11	РК	0.2	0.2	43.51	60	-16.49	-	-		
12	17.0115	25.98	Av	0.2	0.2	26.38	-	-	50	-23.62		

PK - Peak detector

Av - average detection

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12. DYNAMIC FREQUENCY SELECTION

12.1. OVERVIEW

12.1.1. LIMITS

INDUSTRY CANADA

IC RSS-210 is closely harmonized with FCC Part 15 DFS rules. The deviations are as follows:

RSS-210 Issue 7 A9.4 (b) (ii) Channel Availability Check Time: ...

Additional requirements for the band 5600-5650 MHz: Until further notice, devices subject to this Section shall not be capable of transmitting in the band 5600-5650 MHz, so that Environment Canada weather radars operating in this band are protected.

RSS-210 Issue 7 A9.4 (b) (iv) **Channel closing time:** the maximum channel closing time is 260 ms.

<u>FCC</u>

§15.407 (h) and FCC 06-96 APPENDIX "COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVCIES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION".

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Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	Operational Mode				
	Master	Client (without radar detection)	Client (with radar detection)		
Non-Occupancy Period	Yes	Not required	Yes		
DFS Detection Threshold	Yes	Not required	Yes		
Channel Availability Check Time	Yes	Not required	Not required		
Uniform Spreading	Yes	Not required	Not required		

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode				
	Master	Client	Client		
		(without DFS)	(with DFS)		
DFS Detection Threshold	Yes	Not required	Yes		
Channel Closing Transmission Time	Yes	Yes	Yes		
Channel Move Time	Yes	Yes	Yes		

Table 3: Interference Threshold values, Master or Client incorporating In-ServiceMonitoring

Maximum Transmit Power	Value
	(see note)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm
Note 1: This is the level at the input of the receiver assuming a Note 2: Throughout these test procedures an additional 1 dB has of the test transmission waveforms to account for variations in r will ensure that the test signal is at or above the detection thres response.	as been added to the amplitude measurement equipment. This

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Table 4: DFS Response requirement values

Parameter	Value
Non-occupancy period	30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds
Channel Closing Transmission Time	200 milliseconds +
	approx. 60 milliseconds
	over remaining 10 second
	period

The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows:

For the Short pulse radar Test Signals this instant is the end of the Burst.

For the Frequency Hopping radar Test Signal, this instant is the end of the last radar burst generated.

For the Long Pulse radar Test Signal this instant is the end of the 12 second period defining the radar transmission.

The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate channel changes (an aggregate of approximately 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Table 5 – Short Pulse Radar Test Waveforms

Radar	Pulse Width	PRI	Pulses	Minimum	Minimum			
Туре	(Microseconds)	(Microseconds)		Percentage of	Trials			
-				Successful				
				Detection				
1	1	1428	18	60%	30			
2	1-5	150-230	23-29	60%	30			
3	6-10	200-500	16-18	60%	30			
4	11-20	200-500	12-16	60%	30			
Aggregate (Aggregate (Radar Types 1-4) 80% 120							

Table 6 – Long Pulse Radar Test Signal

	<u> </u>		<u> </u>				
Radar Waveform	Bursts	Pulses per Burst	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Minimum Percentage of Successful	Minimum Trials
5	8-20	1-3	50-100	5-20	1000- 2000	Detection 80%	30

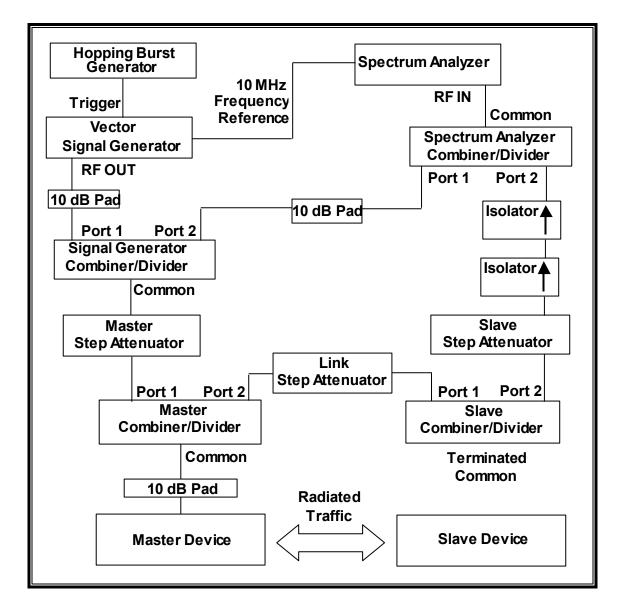
Table 7 – Frequency Hopping Radar Test Signal

Radar	Pulse	PRI	Burst	Pulses	Hopping	Minimum	Minimum
Waveform	Width	(µsec)	Length	per	Rate	Percentage of	Trials
	(µsec)		(ms)	Нор	(kHz)	Successful	
						Detection	
6	1	333	300	9	.333	70%	30

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12.1.2. TEST AND MEASUREMENT SYSTEM

CONDUCTED METHOD SYSTEM BLOCK DIAGRAM



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SYSTEM OVERVIEW

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

The short pulse types 2, 3 and 4, and the long pulse type 5 parameters are randomized at runtime.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of FCC 06-96 APPENDIX. The frequency of the signal generator is incremented in 1 MHz steps from F_L to F_H for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold.

Should multiple RF ports be utilized for the Master and/or Slave devices (for example, for diversity or MIMO implementations), additional combiner/dividers are inserted between the Master Combiner/Divider and the pad connected to the Master Device (and/or between the Slave Combiner/Divider and the pad connected to the Slave Device). Additional pads are utilized such that there is one pad at each RF port on each EUT.

SYSTEM CALIBRATION

A 50-ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected in place of the master device. The signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of –64 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. The Reference Level Offset of the spectrum analyzer is adjusted so that the displayed amplitude of the signal is –64 dBm.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of –64 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

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ADJUSTMENT OF DISPLAYED TRAFFIC LEVEL

A link is established between the Master and Slave and the Link Step Attenuator between the units is adjusted as needed to provide a suitable received level at the Master and Slave devices. The video test file is streamed to generate WLAN traffic. The WLAN traffic level, as displayed on the spectrum analyzer, is confirmed to be at lower amplitude than the radar detection threshold and is confirmed to be the Radar Detection Device rather than the associated device. If a different setting of the Master Step Attenuator is required to meet the above conditions, a new System Calibration is performed for the new Master Step Attenuator setting.

TEST AND MEASUREMENT EQUIPMENT

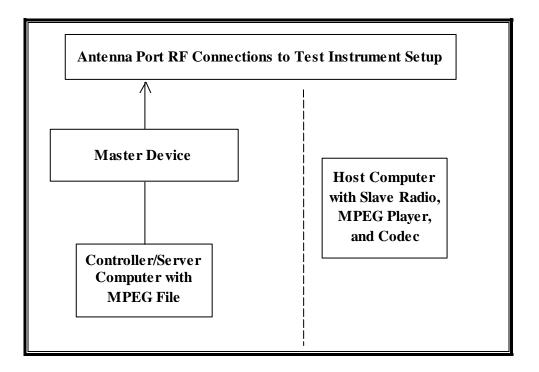
The following test and measurement equipment was utilized for the DFS tests documented in this report:

TEST EQUIPMENT LIST								
Description	Manufacturer	Model	Asset Number	Cal Due				
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	09/10/14				
Vector Signal Generator, 20GHz	Agilent / HP	E8267C	C01066	09/12/14				
Arbitrary Waveform Generator	Agilent / HP	33220A	C01146	09/10/14				

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12.1.3. SETUP OF EUT

CONDUCTED METHOD EUT TEST SETUP



SUPPORT EQUIPMENT

The following support equipment was utilized for the DFS tests documented in this report:

PERIPHERAL SUPPORT EQUIPMENT LIST									
Description	Manufacturer	Model	Serial Number	FCC ID					
Notebook PC (Controller/Server)	Lenovo	Type 7663-04U	L3-KE324 08/09	DoC					
AC Adapter (Controller/Server PC)	Lenovo	ADLX65NLT2A	11S45N0319Z1ZL ZF34G9P5	DoC					
Notebook PC (Host/Slaver Radio)	Lenovo	Type 4173-B74	R9-LC5GV 12/01	QDS-BRCM1046					
AC Adapter (Host PC)	Lenovo	92P1156	11S92P1156Z1ZD XN14L577	Doc					

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12.1.4. DESCRIPTION OF EUT

The EUT operates over the 5250-5350 MHz and 5470-5725 MHz ranges excluding operation in the 5600 to 5650 MHz band.

The EUT is a Master Device.

The highest power level within these bands is 26.987 dBm EIRP in the 5250-5350 MHz band and 27.895 dBm EIRP in the 5470-5725 MHz band.

The highest gain antenna assembly utilized with the EUT has a gain of 14 dBi in the 5250-5350 MHz band and 14 dBi in the 5470-5725 MHz band. The lowest gain antenna assembly utilized with the EUT has a gain of 9 dBi in the 5250-5350 MHz band and 9 dBi in the 5470-5725 MHz band, however testing was performed with a declared lowest gain of 3 dBi.

Two identical antennas are utilized to meet the diversity and MIMO operational requirements.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is -64 dBm. After correction for antenna gain and procedural adjustments, the required conducted threshold at the antenna port is -64 + 3 + 1 = -60 dBm.

The calibrated conducted DFS Detection Threshold level is set to –61 dBm. The tested level is lower than the required level hence it provides margin to the limit.

The EUT uses two transmitter/receiver chains each connected to a 50-ohm coaxial antenna port. All antenna ports are connected to the test system via a power divider to perform conducted tests.

The Slave device associated with the EUT during these tests does not have radar detection capability.

WLAN traffic is generated by streaming the video file TestFile.mp2 "6 ½ Magic Hours" from the Master to the Slave in full motion video mode using the media player with the V2.61 Codec package.

TPC is required since the maximum EIRP is greater than 500 mW (27 dBm).

The EUT utilizes the 802.11a/n architecture. Two nominal channel bandwidths are implemented: 20 MHz and 40 MHz.

The software installed in the access point is revision 4.7.0.0.

UNIFORM CHANNEL SPREADING

See Manufacturer's Attestation.

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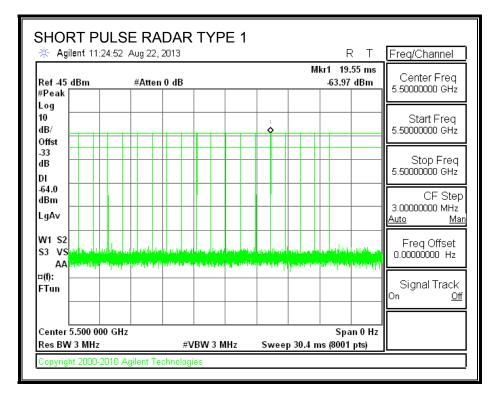
12.2. RESULTS FOR 20 MHz BANDWIDTH

12.2.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5500 MHz.

12.2.2. RADAR WAVEFORMS AND TRAFFIC

RADAR WAVEFORMS



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Ref -45 dBm #Peak Log 10	#Atte	n 0 dP				Freq/Channel
				M	r1 4.704 ms -63.98 dBm	Center Freq 5.5000000 GHz
dB/		1 1	1.			Start Freq 5.5000000 GHz
Offst -33 dB DI						Stop Freq 5.5000000 GHz
-64.0 dBm LgAv						CF Step 3.00000000 MHz <u>Auto Mar</u>
W1 S2 S3 VS					to Malak Ingelation	Frea Offset
AA ¤(f): FTun	in kalimahin kliton ay la	len disen al de politik	Marta <mark>(Instala da ant</mark> i	hthophaldter an	ala shina ta Minda ata	Signal Track ^{On <u>Off</u>}
Center 5.500 000 Res BW 3 MHz	0 GHz	#VBW	3 MHz S	weep 10.13 m	Span 0 Hz s (8001 pts)	

Page 355 of 417

	#Atten					cr1 3.3 -63.99		Center Freq 5.5000000 GHz Start Freq 5.5000000 GHz Stop Freq
								5.50000000 GHz
								Stop Fred
					1			5.50000000 GHz
								CF Step 3.00000000 MHz
			ling to the second days	ur traction later.	ut ce level and	وروارو	na gu lla	<u>Auto Ma</u> Freq Offset 0.00000000 Hz
ne coperat								
000 GHz					45.47	•		
)(00 GHz	00 GHz	14444444444444444444444444444444444444	testujilisju estrograpije prej juni pomolje pred, p 20 GHz	на н	ektrijie voolekker in het jaar voormenderende van de sektrogenoorden van de sektrogenoorde van de sektrogenoord 200 GHz #VBW 3 MHz Sweep 15.47 m	ektilling von det op het gjjoeren totendet op het at andere som ekting produktion op het op h	#VBW 3 MHz Sweep 15.47 ms (8001 pts)

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🔆 Agilent 11	:29:06 A	Aug 22, 1	2013					F		Freq/Channel
Ref -45 dBm #Peak ⊡		#Atten	0 dB				Mł	ur1 3.3 -63.95		Center Freq 5.50000000 GHz
Log 10 dB/			1							Start Freq 5.50000000 GHz
Offst -33 dB DI										Stop Freq 5.5000000 GHz
-64.0 dBm LgAv										CF Step 3.00000000 MHz Auto Ma
W1 S2 S3 VS					lla en la de l					
AA ⊐(f): FTun		and a state of the state	ia princiale 	hiyi.uta		sashiji k	նկիչների	philonphi	ale e ditte	Signal Track On <u>Of</u>
Center 5.500 0 Res BW 3 MHz			#V	'BW 3 N	АН7 5	ween	10.13 m		un 0 Hz	

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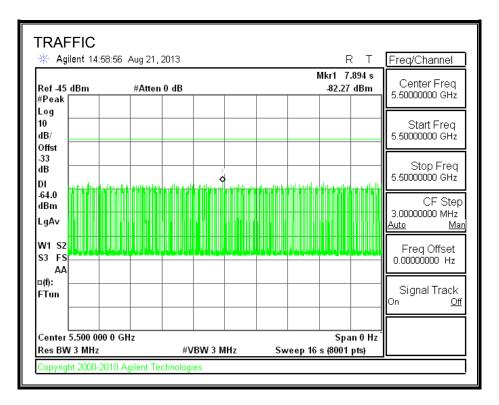
SAMPLE				JRS	T OF	RAD	AR T	YPE		Freq/Channel
Ref -45 dBm #Peak		#Atten					M	kr1 3.7 63.91	61 ms	Center Freq 5.5000000 GHz
Log 10 dB/ Offst				1						Start Freq 5.5000000 GHz
-33 dB DI										Stop Freq 5.5000000 GHz
-64.0 dBm LgAv										CF Step 3.00000000 MHz <u>Auto Mar</u>
W1 S2 S3 VS										Freq Offset 0.00000000 Hz
¤(f): <mark>,,,, ,, , , , ,</mark> ,, FTun	i ja ^d aliyiki k	a fordyn _{an} n	<u>h hann</u>	ALLA U			1914 1914 1914		landar (dar	Signal Track ^{On <u>Off</u>}
Center 5.500 0 Res BW 3 MHz			#V	/BW 3 I	MHz	Sw	veep 8 n		n0Hz pts)	
Copyright 2000	-2010 A(gilent Te	chnologi	es				,	. /	1

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SINGLE BU		DAR TYP	E 6	RТ	Freq/Channel
Ref -45 dBm #Peak	#Atten 0 dB			1 2.333 ms -63.94 dBm	Center Freq 5.5000000 GHz
Log 10 dB/		1			Start Freq 5.5000000 GHz
Offst -33 dB					Stop Freq 5.5000000 GHz
DI -64.0 dBm					CF Step 3.0000000 MHz
LgAv W1 S2 S3 VS	entrol that and a love rail		the product of the second state	entred black at the black of the	<u>Auto Man</u> Freq Offset 0.0000000 Hz
AA ¤(f): <mark>«ԱԼենյեր</mark> եր FTun					Signal Track ^{On <u>Off</u>}
Center 5.500 000 Res BW 3 MHz		VBW 3 MHz	Sweep 5 ms	Span 0 Hz : (8001 pts)	
Copyright 2000-201	0 Agilent Technolog	gies	•	· · ·	

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TRAFFIC



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12.2.3. CHANNEL AVAILABILITY CHECK TIME

PROCEDURE TO DETERMINE INITIAL POWER-UP CYCLE TIME

A link was established on channel then the EUT was rebooted. The time from the cessation of traffic to the re-initialization of traffic was measured as the time required for the EUT to complete the total power-up cycle. The time to complete the initial power-up period is 60 seconds less than this total power-up time.

PROCEDURE FOR TIMING OF RADAR BURST

With a link established on channel, the EUT was rebooted. A radar signal was triggered within 0 to 6 seconds after the initial power-up period, and transmissions on the channel were monitored on the spectrum analyzer.

The Non-Occupancy list was cleared. With a link established on channel, the EUT was rebooted. A radar signal was triggered within 54 to 60 seconds after the initial power-up period, and transmissions on the channel were monitored on the spectrum analyzer.

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QUANTITATIVE RESULTS

No Radar Triggered

Timing of	Timing of	Total Power-up	Initial Power-up
Reboot	Start of Traffic	Cycle Time	Cycle Time
(sec)	(sec)	(sec)	(sec)
30.34	164.1	133.8	73.8

Radar Near Beginning of CAC

Timing of	Timing of	Radar Relative	Radar Relative
Reboot	Radar Burst	to Reboot	to Start of CAC
(sec)	(sec)	(sec)	(sec)
30.38	104.6	74.2	0.5

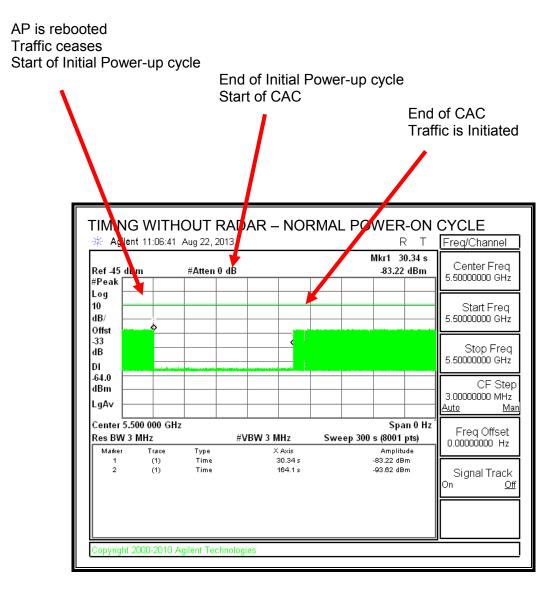
Radar Near End of CAC

Timing of	Timing of	Radar Relative	Radar Relative
Reboot	Radar Burst	to Reboot	to Start of CAC
(sec)	(sec)	(sec)	(sec)
30.49	162.8	132.3	58.6

QUALITATIVE RESULTS

Timing of Radar Burst	Display on Control Computer	Spectrum Analyzer Display
No Radar	EUT does not display any	Transmissions begin on channel
Triggered	status	after completion of the initial power-up cycle and the CAC
Within 0 to 6 second window	EUT does not display any radar parameter values	No transmissions on channel
Within 54 to 60 second window	EUT does not display any radar parameter values	No transmissions on channel

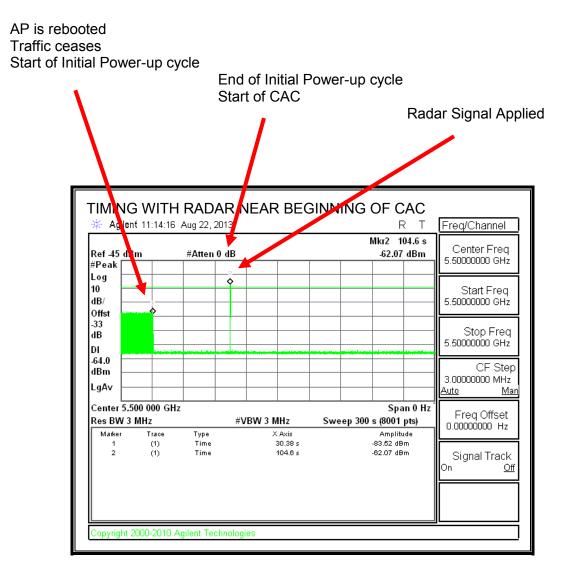
TIMING WITHOUT RADAR DURING CAC



Transmissions begin on channel after completion of the initial power-up cycle and the CAC.

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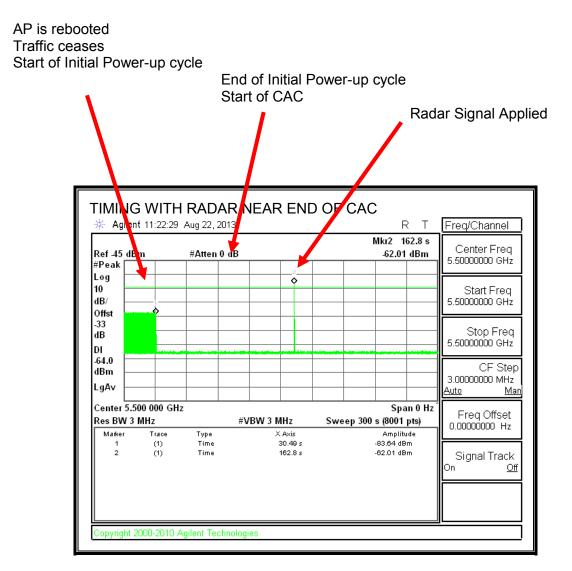
TIMING WITH RADAR NEAR BEGINNING OF CAC



No EUT transmissions were observed after the radar signal.

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TIMING WITH RADAR NEAR END OF CAC



No EUT transmissions were observed after the radar signal.

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12.2.4. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

12.2.5. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

```
Aggregate Transmission Time = (Number of analyzer bins showing transmission) * (dwell time per bin)
```

The observation period over which the FCC aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

The observation period over which the IC aggregate time is calculated begins at (Reference Marker) and ends no earlier than (Reference Marker + 10 sec).

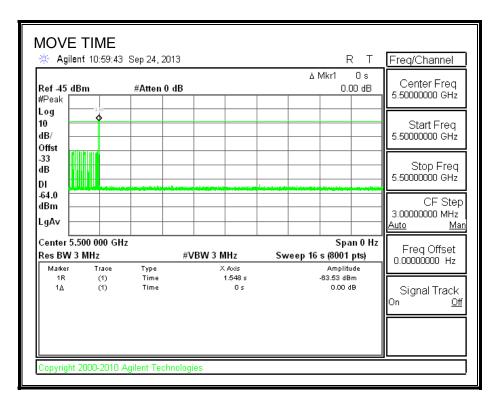
<u>RESULTS</u>

Agency	Channel Move Time	Limit
	(sec)	(sec)
FCC / IC	0.000	10

Agency	Aggregate Channel Closing Transmission Time	Limit
	(msec)	(msec)
FCC	0.0	60
IC	0.0	260

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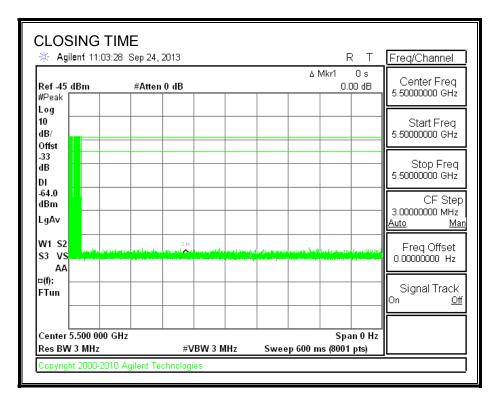
MOVE TIME



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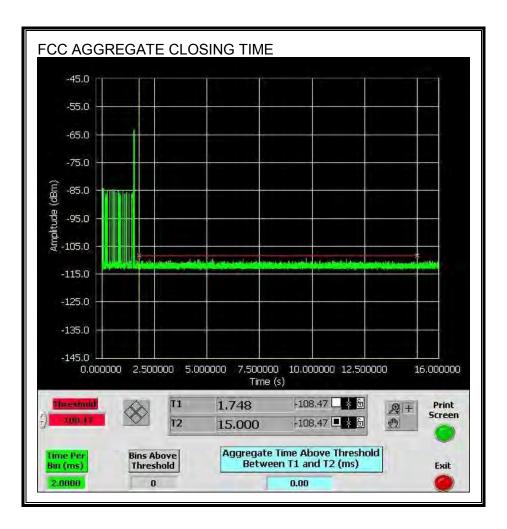
CHANNEL CLOSING TIME



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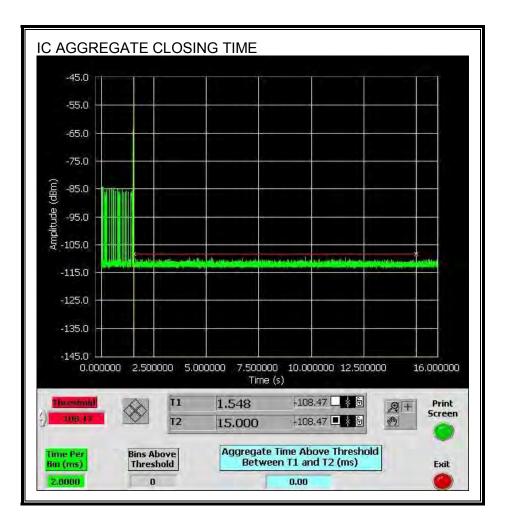
AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the FCC aggregate monitoring period.



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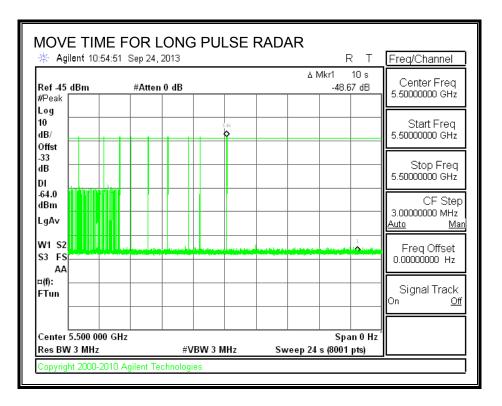
No transmissions are observed during the IC aggregate monitoring period.



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LONG PULSE CHANNEL MOVE TIME

The traffic ceases prior to 10 seconds after the end of the radar waveform.

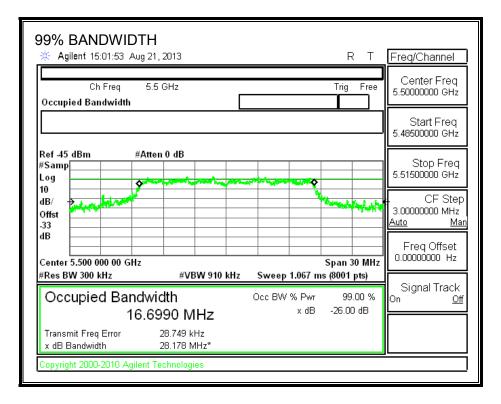


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12.2.6. DETECTION BANDWIDTH

REFERENCE PLOT OF 99% POWER BANDWIDTH



RESULTS

FL	FH	Detection	99% Power	Ratio of	Minimum
		Bandwidth	Bandwidth	Detection BW to	Limit
				99% Power BW	
(MHz)	(MHz)	(MHz)	(MHz)	(%)	(%)
5492	5508	16	16.699	95.8	80

DETECTION BANDWIDTH PROBABILITY

DETECTION BA	ANDWIDTH PROBA	ABILITY RESULTS		
	width Test Results veform: 1 us Pulse V	Width, 1428 us PRI, 14	8 Pulses per l	Burst
Frequency (MHz)		Number Detected	Detection (%)	Mark
5490	10	10	100	FL
5491	10	10	100	
5492	10	10	100	
5493	10	10	100	
5494	10	10	100	
5495	10	10	100	
5496	10	10	100	
5497	10	10	100	
5498	10	10	100	
5499	10	10	100	
5500	10	10	100	
5501	10	10	100	
5502	10	10	100	
5503	10	10	100	
5504	10	10	100	
5505	10	10	100	
5506	10	10	100	
5507	10	10	100	
5508	10	10	100	
5509	10	10	100	
5510	10	10	100	FH

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12.2.7. IN-SERVICE MONITORING

RESULTS

FCC Radar Test Summ	ary			
Signal Type	Number of Trials	Detection	Limit	Pass/Fail
		(%)	(%)	
FCC Short Pulse Type 1	30	86.67	60	Pass
FCC Short Pulse Type 2	30	90.00	60	Pass
FCC Short Pulse Type 3	30	96.67	60	Pass
FCC Short Pulse Type 4	30	80.00	60	Pass
Aggregate		88.33	80	Pass
FCC Long Pulse Type 5	30	100.00	80	Pass
FCC Hopping Type 6	42	95.24	70	Pass

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TYPE 1 DETECTION PROBABILITY

is Pulse Width, 14	28 us PRI, 18 Pulses per Burst
Trial	Successful Detection
	(Yes/No)
1	Yes
2	Yes
3	Yes
4	No
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	No
11	Yes
12	No
13	Yes
14	Yes
15	Yes
16	Yes
17	Yes
18	Yes
19	Yes
20	No
21	Yes
22	Yes
23	Yes
24	Yes
25	Yes
26	Yes
27	Yes
28	Yes
29	Yes
30	Yes

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TYPE 2 DETECTION PROBABILITY

′es/No)
No
Yes
No
Yes
No
Yes
Yes
Yes
Yes

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TYPE 3 DETECTION PROBABILITY

Naveform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Successful Detection (Yes/No)
3001	5.3	338.00	16	Yes
3002	8.4	425.00	17	Yes
3003	9.5	282.00	16	Yes
3004	7.7	312.00	16	Yes
3005	5.5	430.00	16	Yes
3006	9.4	467.00	18	Yes
3007	9.7	419.00	18	Yes
3008	6.4	304.00	16	Yes
3009	9.6	341.00	16	Yes
3010	7	327.00	16	Yes
3011	5.2	263.00	18	Yes
3012	8.7	401.00	16	Yes
3013	5.6	270.00	18	Yes
3014	7.1	451.00	16	Yes
3015	9.1	313.00	16	Yes
3016	7.7	319.00	16	No
3017	7.6	423.00	18	Yes
3018	7.4	301.00	16	Yes
3019	5.4	479.00	18	Yes
3020	8.5	366.00	17	Yes
3021	9.7	415.00	18	Yes
3022	7.1	260.00	16	Yes
3023	9.9	349.00	17	Yes
3024	6.7	268.00	17	Yes
3025	5.1	419.00	18	Yes
3026	9.8	268.00	17	Yes
3027	6.3	289.00	17	Yes
3028	6	278.00	18	Yes
3029	6	313	17	Yes

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TYPE 4DETECTION PROBABILITY

Wa∨eform	Pulse Width (us)	PRI (us)	Pulses Per Burst	Successful Detection (Yes/No)
4001	16.5	291.00	14	Yes
4002	18.7	404.00	15	No
4003	16.5	282.00	13	Yes
4004	16.9	487.00	12	Yes
4005	14.4	259.00	15	Yes
4006	11.4	402.00	12	Yes
4007	15	278.00	15	Yes
4008	13.6	291.00	14	Yes
4009	16.6	495.00	12	Yes
4010	14.3	322.00	15	No
4011	12.3	330.00	12	Yes
4012	18.2	258.00	16	Yes
4013	16.3	371.00	14	Yes
4014	19.2	347.00	16	Yes
4015	16.8	491.00	12	Yes
4016	18.4	480.00	16	No
4017	13	298.00	15	Yes
4018	12.6	363.00	15	Yes
4019	16.2	362.00	14	Yes
4020	15.6	472.00	16	Yes
4021	15.9	299.00	16	No
4022	12.7	403.00	14	Yes
4023	18.7	433.00	15	No
4024	17.5	453.00	14	Yes
4025	19.2	295.00	16	Yes
4026	10.4	485.00	13	Yes
4027	12.6	497.00	15	No
4028	11.1	421.00	12	Yes
4029	14.7	316.00	14	Yes
4030	12	385.00	15	Yes

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TYPE 5 DETECTION PROBABILITY

Trial	Long Pulse Radar Type 5 Successful Detection (Yes/No)
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
11	Yes
12	Yes
13	Yes
14	Yes
15	Yes
16	Yes
17	Yes
18	Yes
19	Yes
20	Yes
21	Yes
22	Yes
23	Yes
24	Yes
25	Yes
26	Yes
27	Yes
28	Yes
29	Yes
30	Yes

Note: The Type 5 randomized parameters are shown in a separate document.

TYPE 6 DETECTION PROBABILITY

Data Sheet	for FCC Hopping Rada	r Type 6		
	Width, 333 us PRI, 9		1 Burst per Hop	,
	ust 2005 Hopping Se			
	Starting Index	Signal Generator	Hops within	Successful
Trial	Within Sequence	Frequency	Detection BW	Detection
	Mann Sequence	(MHz)	Dettection Div	(Yes/No)
1	107	5490	1	Yes
2	582	5491	6	Yes
3	1057	5492	4	Yes
4	1532	5493	2	Yes
5	2007	5494	4	Yes
6	2482	5495		Yes
7	2957	5496	6	Yes
8	3432	5497	2	Yes
9	3907	5497	3	Yes
9 10	4382	5498	4	Yes
11	4382	5500	4	Yes
12	5332	5501	4	Yes
13	5807	5502	4	Yes
14	6282	5503		Yes
14	6757	5504	5	Yes
16	7232	5505		No
17	7707	5505	5	Yes
18	8182	5507	5	Yes
19	8657	5508	2	Yes
20	9132	5508	5	Yes
20	9607	5510	7	Yes
21	10082	5490	4	No
22	10557	5490	4	Yes
23	11032	5491	8	Yes
24	11507	5492	5	Yes
		5495		Yes
26 27	11982	5495	10 5	
	12457			Yes
28 29	12932 13407	5496 5497	8	Yes Yes
29 30			2	Yes
	13882	5498		
31	14357	5499	5	Yes
32	14832	5500	3	Yes
33	15307	5501		Yes
34	15782	5502	4 5	Yes
35	16257	5503		Yes
36	17207	5504	4	Yes
37	17682	5505	5	Yes
38	18157	5506	6	Yes
39	18632	5507	5	Yes
40	19107	5508	5	Yes
41	19582	5509	2	Yes
42	20057	5510	6	Yes

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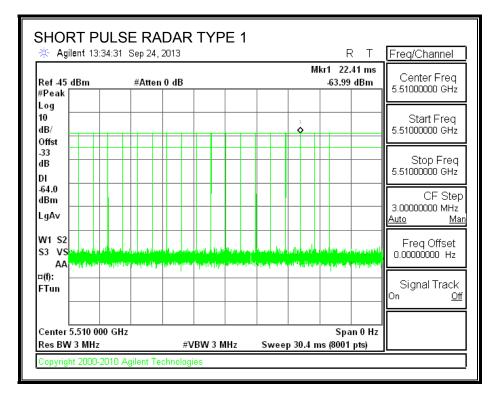
12.3. RESULTS FOR 40 MHz BANDWIDTH

12.3.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5510 MHz.

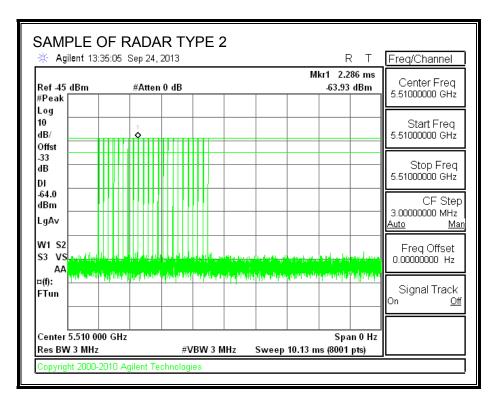
12.3.2. RADAR WAVEFORMS AND TRAFFIC

RADAR WAVEFORMS



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SAMF 🔆 Agi													Y	ΈE 3	3								R	1	Т	Freq/Channel	
Ref 45 #Peak [dBm						##	\tt	en	0	d	в			1		1			М		12 64.0			ms Bm	Center Freq 5.51000000 GHz	
Log 10 dB/			_		•		_				_	_	_													Start Freq 5.51000000 GHz	
Offst -33 dB DI																										Stop Freq 5.51000000 GHz	
-64.0 dBm LgA∨																										CF Ste 3.0000000 MHz Auto M	5
W1 S2 S3 VS	ام ال													1.01- x 101		11	l	(el.ley		and the					البريمين	Erea Offset	
AA ¤(f): FTun	u)Nuvr	lin.	W	ľ	1			η,	ach I					94 004 1409													
Center : Res BW			00	G	Hz	<u>_</u>						#	≠v	BW 3 N	/H7		Swe	ep	15.4	17 n	ns i				0 Hz		=
Res BW Copyrigh			20	10	I A	۰gi	lei	nt	Te	cł	nn				AHZ		Swe	ep	15.4	17 n	ns	(800	1	pŧ	s)		=

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SAMPLE (Agilent 13::	-			′PE 4	4			F	₹Т	Freq/Channel
Ref⊸45 dBm #Peak		#Atten	0 dB			1	MI	kr1 2.3 -64.00		Center Freq 5.51000000 GHz
Log 10 dB/										Start Freq 5.51000000 GHz
Offst -33 dB DI										Stop Freq 5.51000000 GHz
-64.0 dBm LgAv										CF Step 3.00000000 MHz <u>Auto Mar</u>
W1 S2 S3 VStituletari										Freq Offset 0.00000000 Hz
AA <mark>դերե,թ.,</mark> ¤(f): FTun	ild to a today.		lere Ballehe	Alon <mark>Al</mark>	toppendolog Di	All All All And		den de servel de	al lochtstrepp	Signal Track On <u>Off</u>
Center 5.510 00 Res BW 3 MHz	0 GHz		#V	/BW 3 N	ИНz	Sweep	10.13 m		n 0 Hz pts)	

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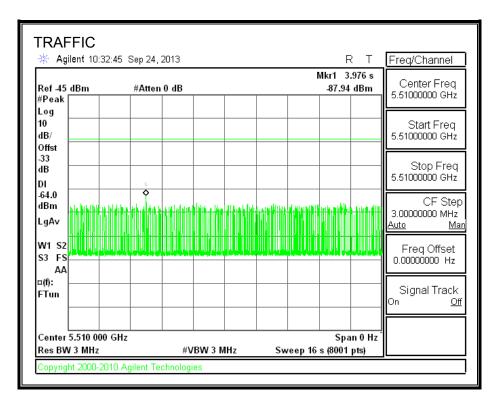
	F SINGLE B 3:50 Sep 24, 2013	URST OF	RADAR T	ТРЕ 5 R Т	Freq/Channel
Ref 45 dBm #Peak	#Atten 0 dB		M	kr1 2.456 ms -64.02 dBm	Center Freq 5.51000000 GHz
Log 10 dB/					Start Freq 5.51000000 GHz
Offst -33 dB DI					Stop Freq 5.51000000 GHz
-64.0 dBm					CF Step 3.0000000 MHz Auto Ma
W1 S2 S3 VS	e landistidaden hartiselti anna hetyre	fet-theteleses, 111 Mar	hallation registration	the first of the first of the first of the state of the s	Erea Offset
AA ⊐(f): <u>հր∺ենվ վր^{ի։}</u> FTun	na tarihi pendingan di pada	u, siinii, jaloon dykka dykla	rtudikantaann taa toollik.si	una hai parti kana papina t	Signal Track On <u>Off</u>
Center 5.510 000 Res BW 3 MHz		VBW 3 MHz	Sweep 8 n	Span 0 Hz ns (8001 pts)	
Copyright 2000-20	010 Agilent Technolog	jies	•	• • •	1

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SINGLE BU			RITE	2 0		R	Т	Freq/Channel
Ref -45 dBm #Peak	#Atter	0 dB			Mk	kr1 1 ₋64.02 di	ms Bm	Center Freq 5.51000000 GHz
Log 10 dB/ Offst								Start Freq 5.51000000 GHz
dB								Stop Freq 5.51000000 GHz
64.0 dBm								CF Step 3.00000000 MHz Auto Mai
W1 S2 S3 VS			an op ^{el} dergels to	righting of the fit			t tribit	Freg Offset
⊐(f):		(4 <mark>) 11 14 14 14</mark> 14	iden, ng <mark>kanda n</mark>	19. ₁₀ .141.814.11	y h. p. b	hullesses.	Lift) Fr	Signal Track ^{On <u>Off</u>}
Center 5.510 000 Res BW 3 MHz	GHz	#VBW	3 MHz	Swe	ep 5 m:	Span (s (8001 pt		

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TRAFFIC



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12.3.3. CHANNEL AVAILABILITY CHECK TIME

PROCEDURE TO DETERMINE INITIAL POWER-UP CYCLE TIME

A link was established on channel then the EUT was rebooted. The time from the cessation of traffic to the re-initialization of traffic was measured as the time required for the EUT to complete the total power-up cycle. The time to complete the initial power-up period is 60 seconds less than this total power-up time.

PROCEDURE FOR TIMING OF RADAR BURST

With a link established on channel, the EUT was rebooted. A radar signal was triggered within 0 to 6 seconds after the initial power-up period, and transmissions on the channel were monitored on the spectrum analyzer.

The Non-Occupancy list was cleared. With a link established on channel, the EUT was rebooted. A radar signal was triggered within 54 to 60 seconds after the initial power-up period, and transmissions on the channel were monitored on the spectrum analyzer.

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QUANTITATIVE RESULTS

No Radar Triggered

Timing of	Timing of	Total Power-up	Initial Power-up
Reboot	Start of Traffic	Cycle Time	Cycle Time
(sec)	(sec)	(sec)	(sec)
29.81	163.8	134.0	74.0

Radar Near Beginning of CAC

Timing of	Timing of	Radar Relative	Radar Relative
Reboot	Radar Burst	to Reboot	to Start of CAC
(sec)	(sec)	(sec)	(sec)
30.19	104.7	74.5	0.5

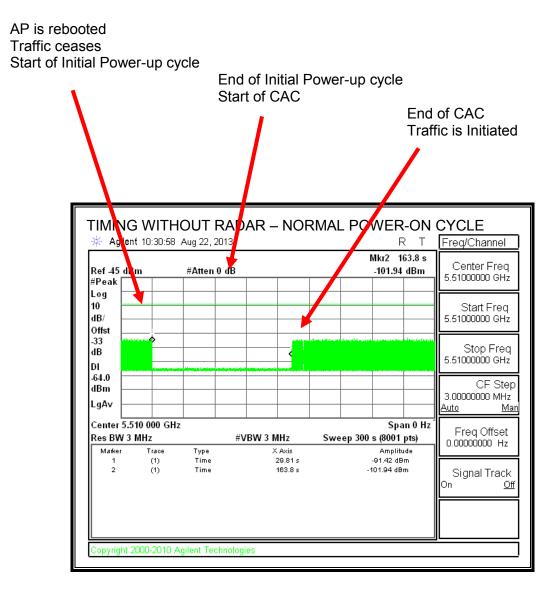
Radar Near End of CAC

Timing of	Timing of	Radar Relative	Radar Relative
Reboot	Radar Burst	to Reboot	to Start of CAC
(sec)	(sec)	(sec)	(sec)
30.04	162.6	132.6	58.6

QUALITATIVE RESULTS

Timing of Radar Burst	Display on Control Computer	Spectrum Analyzer Display
No Radar Triggered	EUT does not display any status	Transmissions begin on channel after completion of the initial
Inggered	Sidius	power-up cycle and the CAC
Within 0 to 6 second window	EUT does not display any radar parameter values	No transmissions on channel
Within 54 to 60 second window	EUT does not display any radar parameter values	No transmissions on channel

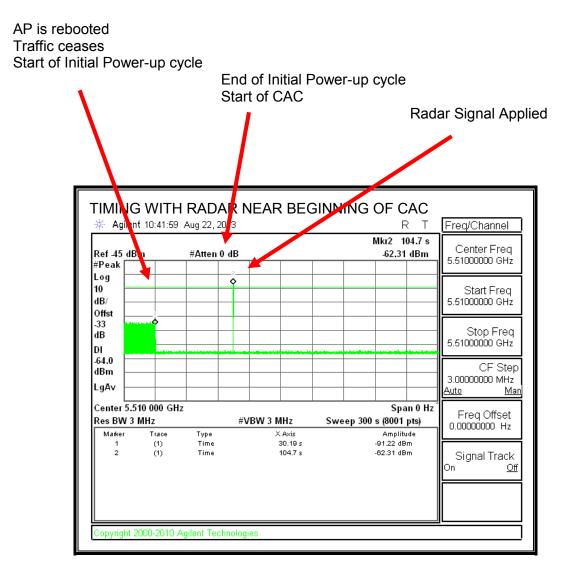
TIMING WITHOUT RADAR DURING CAC



Transmissions begin on channel after completion of the initial power-up cycle and the CAC.

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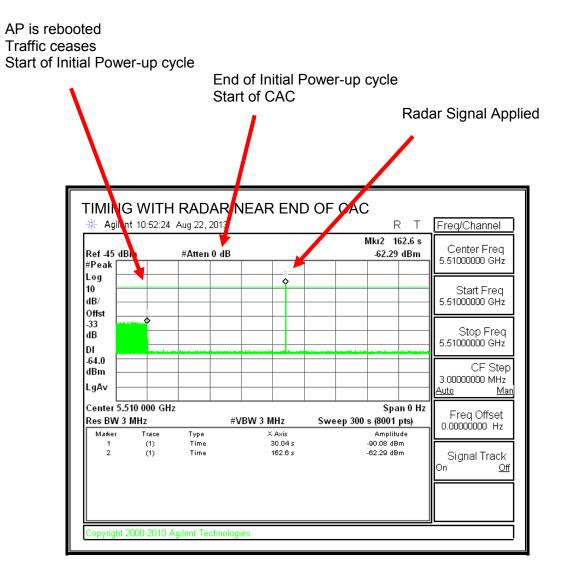
TIMING WITH RADAR NEAR BEGINNING OF CAC



No EUT transmissions were observed after the radar signal.

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TIMING WITH RADAR NEAR END OF CAC



No EUT transmissions were observed after the radar signal.

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12.3.4. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

12.3.5. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

```
Aggregate Transmission Time = (Number of analyzer bins showing transmission) * (dwell time per bin)
```

The observation period over which the FCC aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

The observation period over which the IC aggregate time is calculated begins at (Reference Marker) and ends no earlier than (Reference Marker + 10 sec).

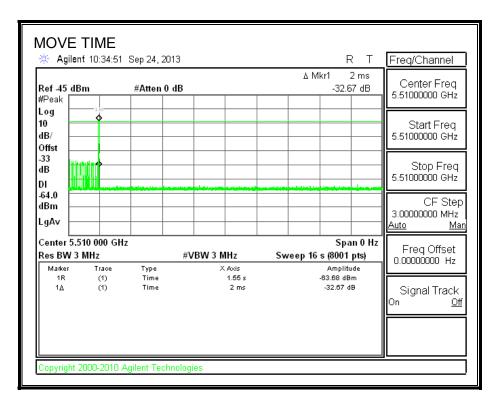
<u>RESULTS</u>

Agency	Channel Move Time	Limit
	(sec)	(sec)
FCC / IC	0.002	10

Agency	Aggregate Channel Closing Transmission Time	Limit
	(msec)	(msec)
FCC	0.0	60
IC	2.0	260

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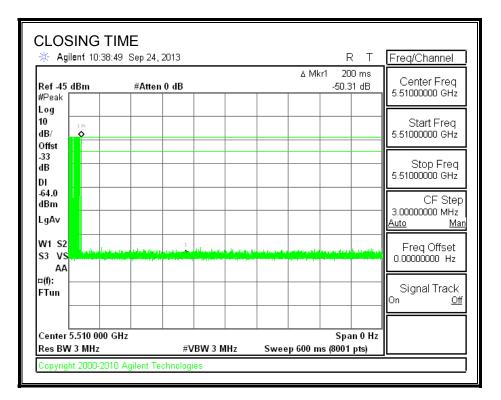
MOVE TIME



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CHANNEL CLOSING TIME

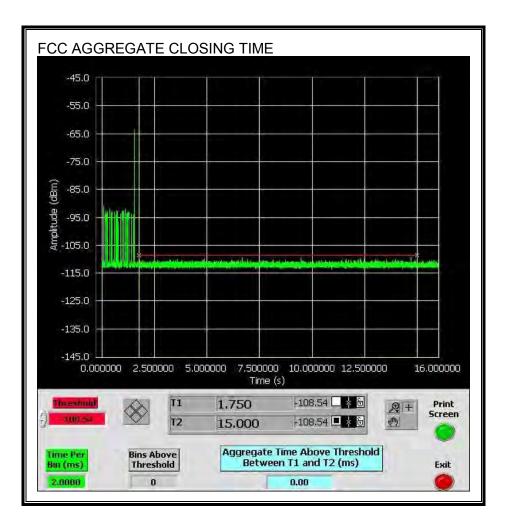


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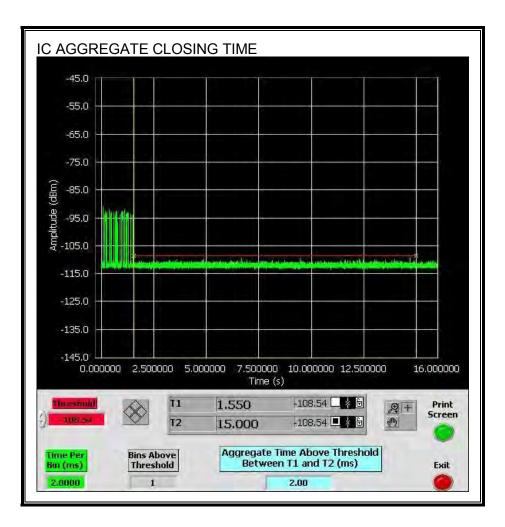
AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No intermittent transmissions are observed during the FCC aggregate monitoring period.



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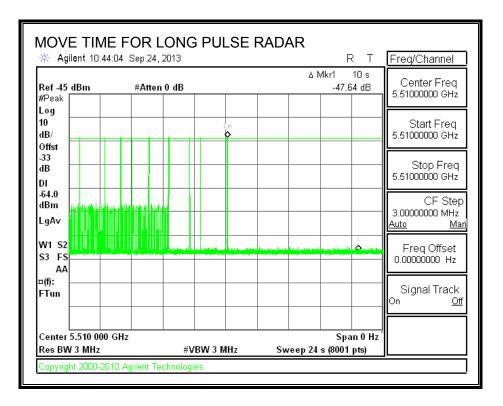
Only intermittent transmissions are observed during the IC aggregate monitoring period.



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LONG PULSE CHANNEL MOVE TIME

The traffic ceases prior to 10 seconds after the end of the radar waveform.



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12.3.6. NON-OCCUPANCY PERIOD

RESULTS

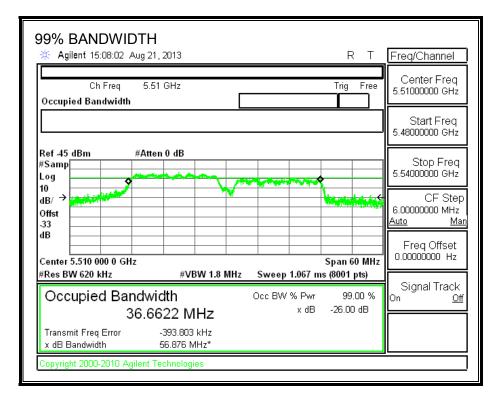
No EUT transmissions were observed on the test channel during the 30-minute observation time.

		∆ Mkr1 1.8 ks	Freq/Channel Center Freq
Ref 45 dBm Peak	#Atten 0 dB	-46.18 dB	5.51000000 GHz
.og 0 1R IB/ ¢			Start Freq 5.51000000 GHz
33 IB			Stop Frec 5.5100000 GHz
64.0 IBm .gAv			CF Ste 3.00000000 MHz <u>Auto M</u>
N1 S2 53 FS AA			Freq Offset 0.00000000 Hz
:(f): -Tun			Signal Track ^{On <u>C</u>}
Center 5.510 000 (Res BW 3 MHz	GHz #VBW 3 MHz	Span 0 Hz Sweep 2 ks (8001 pts)	

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12.3.7. DETECTION BANDWIDTH

REFERENCE PLOT OF 99% POWER BANDWIDTH



RESULTS

FL	FH	Detection	99% Power	Ratio of	Minimum
		Bandwidth	Bandwidth	Detection BW to	Limit
				99% Power BW	
(MHz)	(MHz)	(MHz)	(MHz)	(%)	(%)
5490	5530	40	36.662	109.1	80

DETECTION BANDWIDTH PROBABILITY

Detection Band	NDWIDTH PROBA			
FCC Type 1 Wa Frequency	veform: 1 us Pulse V Number of Trials		8 Pulses per t Detection	Burst Mark
(MHz)		Number Detected	(%)	Mark
5490	10	10	100	FL
5491	10	10	100	
5492	10	10	100	
5493	10	10	100	
5494	10	10	100	
5495	10	10	100	
5496	10	10	100	
5497	10	10	100	
5498	10	10	100	
5499	10	10	100	
5500	10	10	100	
5501	10	10	100	
5502	10	10	100	
5503	10	10	100	
5504	10	10	100	
5505	10	10	100	
5506	10	10	100	
5507	10	10	100	
5508	10	10	100	
5509	10	10	100	
5510	10	10	100	
5511	10	10	100	
5512	10	10	100	
5513	10	10	100	
5514	10	10	100	
5515	10	10	100	
5516	10	10	100	
5517	10	10	100	
5518	10	10	100	
5519	10	10	100	
5520	10	10	100	
5521	10	10	100	
5522	10	10	100	
5523	10	10	100	
5524	10	10	100	
5525	10	10	100	
5526	10	10	100	
5527	10	10	100	
5528	10	10	100	
5529	10	10	100	
5530	10	10	100	FH

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12.3.8. IN-SERVICE MONITORING

RESULTS

FCC Radar Test Summ	ary			
Signal Type	Number of Trials	Detection	Limit	Pass/Fail
		(%)	(%)	
FCC Short Pulse Type 1	30	93.33	60	Pass
FCC Short Pulse Type 2	30	90.00	60	Pass
FCC Short Pulse Type 3	30	76.67	60	Pass
FCC Short Pulse Type 4	30	76.67	60	Pass
Aggregate		84.17	80	Pass
FCC Long Pulse Type 5	30	100.00	80	Pass
FCC Hopping Type 6	41	97.56	70	Pass

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TYPE 1 DETECTION PROBABILITY

1 us Pulse Width, 1428 us PRI, 18 Pulses per Burst		
Trial	Successful Detection	
	(Yes/No)	
1	Yes	
2	Yes	
3	Yes	
4	Yes	
5	Yes	
6	Yes	
7	Yes	
8	Yes	
9	Yes	
10	Yes	
11	No	
12	Yes	
13	Yes	
14	Yes	
15	Yes	
16	Yes	
17	Yes	
18	No	
19	Yes	
20	Yes	
21	Yes	
22	Yes	
23	Yes	
24	Yes	
25	Yes	
26	Yes	
27	Yes	
28	Yes	
29	Yes	
30	Yes	

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TYPE 2 DETECTION PROBABILITY

Waveform	Pulse Width	PRI	Pulses Per Burst	Successful Detection
	(us)	(us)		(Yes/No)
2001	2.7	161.00	23	No
2002	3.9	198.00	29	Yes
2003	4.7	164.00	29	Yes
2004	5	175.00	25	Yes
2005	3.2	154.00	28	Yes
2006	1.4	208.00	25	Yes
2007	2.5	178.00	29	Yes
2008	2.5	155.00	25	Yes
2009	1.6	190.00	28	Yes
2010	3.4	174.00	24	No
2011	2.6	175.00	23	Yes
2012	3.8	209.00	27	Yes
2013	2.6	186.00	26	Yes
2014	3.2	182.00	27	Yes
2015	2	213.00	28	Yes
2016	2.6	209.00	23	Yes
2017	1.9	165.00	28	Yes
2018	4.2	191.00	27	Yes
2019	4.8	183.00	23	Yes
2020	4.2	167.00	27	Yes
2021	3.5	176.00	26	Yes
2022	1.3	180.00	27	Yes
2023	3.8	156.00	27	Yes
2024	3.4	174.00	25	Yes
2025	2.4	201.00	24	Yes
2026	4	158.00	26	Yes
2027	2.6	185.00	26	Yes
2028	4.3	225.00	25	No
2029	2.4	192.00	25	Yes

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TYPE 3 DETECTION PROBABILITY

Waveform	Pulse Width	PRI	Pulses Per Burst	Successful Detection
	(us)	(us)		(Yes/No)
3001	5.7	304.00	18	Yes
3002	5.3	391.00	18	Yes
3003	9.4	321.00	17	No
3004	8.4	252.00	16	Yes
3005	7.4	257.00	16	Yes
3006	9.5	348.00	16	Yes
3007	9.8	336.00	17	Yes
3008	7.4	374.00	17	Yes
3009	9.6	373.00	17	No
3010	9.9	311.00	16	No
3011	9.8	435.00	18	No
3012	9.9	291.00	18	Yes
3013	9.4	346.00	17	Yes
3014	6.3	303.00	16	Yes
3015	7.7	303.00	18	Yes
3016	8.7	436.00	16	Yes
3017	7.1	437.00	16	Yes
3018	7.3	380.00	16	No
3019	6.8	385.00	17	Yes
3020	8.9	295.00	16	Yes
3021	9.6	394.00	17	Yes
3022	9.1	489.00	17	No
3023	9.3	467.00	18	Yes
3024	8.9	464.00	16	Yes
3025	5.8	376.00	16	Yes
3026	5.1	464.00	17	Yes
3027	6.5	482.00	17	Yes
3028	8.2	500.00	17	No
3029	6.3	476	16	Yes

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TYPE 4 DETECTION PROBABILITY

4001 4002		(us)	Pulses Per Burst	Successful Detection (Yes/No)
	18.8	331.00	16	No
4000	18.8	305.00	15	Yes
4003	17.5	499.00	16	Yes
4004	16.5	260.00	12	Yes
4005	16	487.00	14	No
4006	12	292.00	14	Yes
4007	11.1	463.00	13	Yes
4008	14.7	372.00	12	No
4009	15.9	478.00	14	Yes
4010	12.4	495.00	13	No
4011	13	427.00	16	Yes
4012	17.6	338.00	13	No
4013	15.2	479.00	14	Yes
4014	13.2	288.00	15	Yes
4015	13.4	370.00	12	Yes
4016	15.7	438.00	16	Yes
4017	13.9	329.00	13	Yes
4018	16.3	391.00	13	Yes
4019	12.2	474.00	16	Yes
4020	13.6	252.00	13	Yes
4021	12.7	470.00	13	Yes
4022	18.6	250.00	12	Yes
4023	18.6	325.00	13	Yes
4024	16.2	482.00	12	No
4025	16.4	310.00	13	No
4026	14.8	468.00	15	Yes
4027	13.9	444.00	14	Yes
4028	18.4	480.00	13	Yes
4029	11.8	290.00	14	Yes

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TYPE 5 DETECTION PROBABILITY

Trial	Successful Detection (Yes/No)	
1	Yes	
2	Yes	
3	Yes	
4	Yes	
5	Yes	
6	Yes	
7	Yes	
8	Yes	
9	Yes	
10	Yes	
11	Yes	
12	Yes	
13	Yes	
14	Yes	
15	Yes	
16	Yes	
17	Yes	
18	Yes	
19	Yes	
20	Yes	
21	Yes	
22	Yes	
23	Yes	
24	Yes	
25	Yes	
26	Yes	
27	Yes	
28	Yes	
29	Yes	
30	Yes	

Note: The Type 5 randomized parameters are shown in a separate document.

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TYPE 6 DETECTION PROBABILITY

	e Width, 333 us PRI, 1		1 Burst per Hop	
Trial	ust 2005 Hopping Se Starting Index Within Sequence	quence Signal Generator Frequency (MHz)	Hops within Detection BW	Successfu Detection (Yes/No)
1	69	5490	11	No
2	544	5491	8	Yes
3	1019	5492	7	Yes
4	1494	5493	10	Yes
5	1969	5494	13	Yes
6	2444	5495	10	Yes
7	2919	5496	10	Yes
8	3394	5497	7	Yes
9	3869	5498	9	Yes
10	4344	5499	8	Yes
11	4819	5500	9	Yes
12	5294	5501	9	Yes
13	5769	5502	11	Yes
14	6244	5503	10	Yes
15	6719	5504	7	Yes
16	7194	5505	9	Yes
17	7669	5506	7	Yes
18	8144	5507	9	Yes
19	8619	5508	7	Yes
20	9094	5509	12	Yes
21	9569	5510	8	Yes
22	10044	5511	8	Yes
23	10519	5512	5	Yes
24	10994	5513	6	Yes
25	11469	5514	10	Yes
26	11944	5515	13	Yes
27	12419	5516	9	Yes
28	12894	5517	10	Yes
29	13369	5518	15	Yes
30	13844	5519	6	Yes
31	14319	5520	11	Yes
32	14794	5521	6	Yes
33	15269	5522	12	Yes
34	15744	5523	7	Yes
35	16219	5524	9	Yes
36	16694	5525	8	Yes
37	17169	5526	6	Yes
38	17644	5527	11	Yes
39	18119	5528	10	Yes
40	18594	5529	10	Yes
41	19069	5530	7	Yes

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TYPE 6 DETECTION PROBABILITY (CONT.)

20	9062	5509	11	Yes
21	9537	5510	11	No
22	10012	5511	10	Yes
23	10487	5512	8	Yes
24	10962	5513	8	Yes
25	11437	5514	9	Yes
26	11912	5515	8	Yes
27	12387	5516	8	Yes
28	12862	5517	10	Yes
29	13337	5518	14	Yes
30	13812	5519	6	Yes
31	14287	5520	9	Yes
32	14762	5521	6	Yes
33	15237	5522	10	Yes
34	15712	5523	9	Yes
35	16187	5524	10	Yes
36	16662	5525	7	Yes
37	17137	5526	11	Yes
38	17612	5527	13	Yes
39	18087	5528	8	Yes
40	18562	5529	7	Yes
41	19037	5530	4	Yes

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